Business Practices Recommendations Lewis & Clark County, Montana

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Business Practices Recommendations

The Business Practices Review was intended to review the business practices in areas such as frequency efficiency, dispatch operations, system access and interoperability with agencies within Lewis and Clark County and agencies surrounding the county.

Business practices analysis took place via several meetings with the user groups within Lewis and Clark County. The first set of meetings reviewed current business practices with respect to using the current conventional radio system. Motorola met with various user groups to discuss their current radio practices. The next set of meetings focused on "fleetmapping". While fleetmapping is a separate exercise, the results of the fleetmapping directly impact the business practices that will be used for the new trunked radio system. Again, the various user groups within the county took part in the fleetmapping exercise and provided input for the fleetmap templates.

The final set of meetings were focused on the business practices that would be utilized on the new trunked radio system. These final sets of meetings were again held with various user groups within Lewis and Clark County.

The input from the meetings and the resulting business practices recommendations are captured within this document.

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1.0 Summary of Current Business Practices

The "As Is" modeling or review of the current radio business practices took place during a series of meetings with the various user groups within Lewis and Clark County, MT. These meetings took place during the week of June 28, 2004.

Meetings were held with the following user groups:

- Lewis and Clark County Sheriff
- Helena Police
- Helena Fire
- East Helena Fire
- Rural Fire
- County Public Works
- > St. Petes Ambulance (EMS)
- Montana Highway Patrol
- Dispatch

First, in order to capture business practices within the current radio system, four main topic areas were discussed and summarized.

Second, business practices revisions for the new radio system were formulated and summarized.

- Identification of users within the agency
- > Characterization of who users communicate with
- > How users communicate
- Problems or issues with the current system
- New Communications Hierarchy and Protocols

2.0 Summary of User Groups Business Practices

2.1. Lewis and Clark County Sheriff

2.1.1. Lewis and Clark County Users

- Sworn Officers
 - Helena Patrol
 - Substations
 - Lake Patrol
 - Wolf Creek
 - Augusta



- Canyon Ferry
- Lincoln
- Civil
- o Admin
- o MRDTF Missouri River Drug Task Force
- Tactical
 - Reserves
- Transport
- Non Sworn Officers
 - DES Disaster Emergency Services
 - LC Search and Rescue
 - Detention Center
 - Dispatch

2.1.2. Communications with System Today:

| User Patrols Augusta Canyon Ferry | Communications with Dispatch communicates heavily with dispatch-60% communicate mainly with dispatch-90% communicate mainly with dispatch-75% | Communications Car to Car car to car-40% car to car-10% car to car- 25% |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Lincoln Wolf Creek Civil Admin | communicate mainly with dispatch-80% communicate mainly with dispatch-80% communicate mainly with dispatch-80% communicate with dispatch and cars-80% | car to car- 20% car to car- 20% car to car- 20% car to car-10% |
| Tactical Transport DES | communicate mainly with cars-95% communicate mainly with dispatch-90% dispatch-5% | dispatch-5% car to car-10% communicate mainly with cars-95% |
| LCSAR | dispatch-30% | communicate mainly with cars- |
| Detention | communicate mainly with dispatch-95% detention radio system is UHF and only works within the detention center. This communication is mostly within the jail for doors open, doors close etc. | |



Interoperability Communications

The table below outlines communications between the Lewis and Clark County Sheriff and other agencies within the county/state.

| Agency | Channel for Communication | Process |
|-------------------------|---------------------------------------------------------|--------------------------------|
| USFS | > Mutual Aid or LCSO CH#1 | > will contact dispatch first |
| Coroner | > LCSO CH #1 or #2 | > will contact dispatch first |
| BLM – Bureau of Land | > LCSO CH#1 | > will contact dispatch first |
| Management | | |
| FWP – Fish and Wildlife | > LCSO CH #1 | > will contact dispatch first |
| Montana Highway Patrol | > LCSO CH #1 | > will contact dispatch first |
| MT Livestock | > LCSO CH #1 | > will contact dispatch first |
| DOJ | > LCSO CH #1 | > will contact dispatch first |
| BOR- Bureau of | > LCSO CH #1 | > will contact dispatch first |
| Reclamation | | |
| US Marshal | > LCSO CH #1 | > will contact dispatch first |
| FBI | > FBI Channels or LCSO CH #1 | > will contact dispatch first |
| ATF | > ATF Channels or LCSO CH #1 | > will contact dispatch first |
| Homeland Security | > LCSO CH #1 | > will contact dispatch first |
| State Drug Task Force | > SDTF Channels | |
| East Helena PD | > East Helena or LCSO CH #1 | > will contact dispatch first |
| Helena PD | > Helena PD or LCSO CH #1 | > will contact dispatch first |
| MSP – Montana State | > Mutual Aid or LCSO CH#1 | |
| Prison Helena Fire | > Helena Fire Channel | . will contact dispotals first |
| Rural Fire | > Helena Fire Channel > Mutual Aid or LCSO CH#1 | > will contact dispatch first |
| Rurai Fire | > Mutual Aid of LCSO CH#1 | > will contact dispatch first |
| Jefferson County – | communicate via LCSO main channel or | > will contact dispatch first |
| | their main channel | |
| Powell County – | communicate via LCSO main channel or their main channel | > will contact dispatch first |
| Cascade County – | communicate via LCSO main channel or | > will contact dispatch first |
| Gascade County — | their main channel | > will contact dispator first |
| Teton County – | communicate via LCSO main channel or | > will contact dispatch first |
| , | their main channel | • |
| Broadwater County – | communicate via LCSO main channel or | > will contact dispatch first |
| | their main channel | |
| Meagher County - | communicate via LCSO main channel or | > will contact dispatch first |
| | their main channel | |
| Missoula County - | communicate via LCSO main channel or | > will contact dispatch first |
| | their main channel | |



DNRC Juvenile Probation EMS

- > LCSO channel #1 via dispatch
- > will contact dispatch first
- > will contact dispatch first

- > LCSO Main Channel or EMS Channel

> DNRC channel or Mutual Aid

> will contact dispatch first

- Mercy Flight Life Flight
- St. Pete Ambulance
- Lincoln
- Augusta

County Works

LCSO Main Channel or County Works Channel

2.1.3. Problem Areas

Helena Patrol

- dead zones, unable to communicate, no radio coverage
- too many users for one channel
- can't communicate with users using non-essential channel (dispatch)
- paging system is on the dispatch channel
- two frequencies on one repeater (North and South) interference
- inter agency communications
 - ** need communication plan for inter-operability
- dispatch response or non-response (due to overload)
- frequency limitations
 - can't handle multiple big incidents
- LCSO to Detention communication process > keep via dispatch or direct communications

2.2 City of Helena Police

2.2.1. City of Helena Police Users

Patrol

- SRO, school resource officers
- Housing Officer, HHA
- Motorcycle Officer
- Animal Control Officer, ACO
- Street Officers
- Special Detail Officers

Criminal Investigation Div.

Investigators

•__Drug

Administration

SSD (Dispatchers)

SWAT

2.2.2. Communications with System Today:

| User SRO, school resource officers | Communications with Dispatch Dispatch Communications -30%, | Communications Car to Car Car to Car - 70% |
|--------------------------------------------------|------------------------------------------------------------|-----------------------------------------------|
| Housing Officer, HHA | Dispatch Communications -50% | Car to Car - 50% |
| Motorcycle Officer | Dispatch Communications -85% | Car to Car - 15% |
| Animal Control Officer, ACO | Dispatch Communications -95% | Car to Car - 5% |
| Street Officers | Dispatch Communications -85% | Car to Car - 15% |
| Special Detail Criminal Investigation Div. | Dispatch Communications -75% | Car to Car - 25% |
| Investigators | Dispatch Communications -50% | Car to Car - 50% |
| •Drug | Dispatch Communications -1% | Car to Car - 99% |
| Administration | Dispatch Communications -1% | Car to Car - 99% |

Interoperability Communications

The table below outlines communications between the City of Helena Police and other agencies within the county/state.

| LCSO > LCSO CH#1 or HPD Main Channel > may contact dispate > via dispatch > will contact dispate | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| St. Pete's (EMS) > via dispatch > will contact dispatch > Jefferson, > Mutual Aid channels > will contact dispatch > will cont | h first h first h first |



City Public Works Coroner East Helena PD > via dispatch or County Channel

> will contact dispatch first

> will contact dispatch first

> via EHPD channel

> will contact dispatch first

2.2.3. Problem Areas

- o Bleed over onto Helena Police channel from other user groups
- Channel 2, not enough range. > Coverage Limitation
- Dispatch does not/cannot respond > Dispatch overload > Dispatch mis-use by Helena Police
- Would like to communicate with Fish and Game, Airport security, Probation and Patrol, State Capital Security, Carole College Security

2.3 City of Helena Fire Department

#2.3.1. City of Helena Fire Department Users

Admin

- Chief, Asst. Chiefs, Adm. Assistant

Suppression Duty Crews (7)

- Engines
- Captains
- Battalion Chiefs
- Firefighters

Fire Prevention Bureau

Inspectors (2)

Other Users Helena Fire Communicates with on an incident basis

- VA Fire
- -•_Airport
- Department of Administration Capital
- Rural Fire
- DNRC Department of Natural Resources and Conservation
- EMS
- Helena PD
- L&C Sheriff
- Montana City
- Clancy

- LCSAR
- Dispatch
- East Helena Fire
- EOC

2.3.2 Typical Call for a Fire Incident

- •1. Call comes into 911 and sent to Dispatch. **This call will sometimes come directly to the Fire Hall
- **■**2. Dispatch pages Fire Halls 1 and 2
- ***3.** Fire Acknowledges receipt of page
- <u>■4.</u> Engines are dispatched, status messages via status head on mobile are sent to Fire Hall for updates. (i.e. Enroute, On Scene etc.)
- <u>■5.</u>1st on scene assesses the situation and provides updates over the Fire Main Channel #1
- •6. If assistance is required from HPD, LCSO, EMS etc, a request is made to dispatch for this assistance
- •7. If additional Helena Fire personnel support is required, a request is made to dispatch to page out additional personnel. Personnel is then supposed to respond to dispatch of their availability.
- *8. The on-scene fire crew will often communicate amongst themselves on the main Fire Channel #1. The IC sometimes will make a decision to move this communications to either channel 2 or channel 16.

-2.3.3 Problem Areas

- There is only one primary channel for tactical and dispatching (always worried about missing the page, second call)
- Dispatch is very much depended upon for support; dispatch will often tune out Fire because Fire also uses the same channel for tactical conversations. Dispatch is non-responsive
- •• In-building coverage in some areas is a problem
- On-scene > don't have system for working groups to have their own channel but at the same time not miss the second call
 - Interior Operations
 - IC
 - Tower Operations
 - Vent
 - Rehab/Medical
 - Staging (wide area)
 - Hazmat



- Paging system is on the dispatch channel
- Dispatch non-responsive due to dispatch overload
- *• "All Department Call Out" have no way of knowing who will respond to the call out. No feedback mechanism for callouts.
- Radio compatibility, keeping radios/batteries at same operational level.
- Radio ease of use.
- Functional Rotation Transition Issues
- Fire Fighter safety, communication, tracking fire fighters, etc.
- Inter-agency communications
 - •o ** need communication plan for inter-operability
- Communication loop (completion of the loop via positive acknowledgements), active listening.

⊕2.3 East Helena Fire

2.4.1 East Helena Fire Department Users

- 4 Officers
 - Chief, Asst. Chief
- 2 Captains
- 7 Firefighters/EMTs
- **■** 3 Engines
 - 2 pumpers
 - •__1 rescue

Other Users that East Helena Fire Communicates with on an incident basis

- St. Petes
- East Helena PD
- LCSO
- Rural Fire
- Helena Fire
- DNRC
- USFS
- Broadwater County
- Jefferson County

2.4.2 Communications with System Today:

UserCommunications with Dispatch
OfficersCommunications Car to Car
Dispatch Communications -90%,
Dispatch Communications -90%Car to Car - 10%
Car to Car - 10%



Firefighters/EMTs
Engines

Dispatch Communications -10% Dispatch Communications -90%

Car to Car - 90% Car to Car - 10%

i.2.4.3 Problem Areas

- Paging Coverage was a problem
- Coverage in building could be better

⊕2.4 E.Helena PD (Functional Group 5 of 10)

i.2.5.1 E. Helena PD Users

Patrol

- SRO, school resource officers
- Housing Officer, HHA
- Motorcycle Officer
- Animal Control Officer, ACO
- Street Officers
- Special Detail Officers

Criminal Investigation Div.

- Investigators
- Drug

Administration

SSD (Dispatchers)

SWAT

ii. 2.5.2 Communications with System Today:

| User | Communications with Dispatch | Communications Unit to Unit |
|--------------------------------------------------|-------------------------------|-----------------------------|
| SRO, school resource officers | Dispatch Communications -30%, | Unit to Unit - 70% |
| Housing Officer, HHA | Dispatch Communications -50% | Unit to Unit - 50% |
| Motorcycle Officer | Dispatch Communications -85% | Unit to Unit - 15% |
| Animal Control Officer, ACO | Dispatch Communications -95% | Unit to Unit - 5% |
| Street Officers | Dispatch Communications -85% | Unit to Unit - 15% |
| Special Detail Criminal Investigation Div. | Dispatch Communications -75% | Unit to Unit - 25% |
| Investigators | Dispatch Communications -50% | Unit to Unit - 50% |
| •Drug | Dispatch Communications -1% | Unit to Unit - 99% |



| Administration | Dispatch Communications -1% | Unit to Unit - 99% |
|----------------|-----------------------------|--------------------|
|----------------|-----------------------------|--------------------|

Interoperability Communications

The table below outlines communications between East Helena Police and other agencies within the county/state.

| Agency | Channel for Communication | Process |
|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LCSO Helena Fire St. Pete's (EMS) MHP Counties - Jefferson, Broadwater | LCSO CH#1 or HPD Main Channel via dispatch via dispatch via dispatch Mutual Aid channels Mutual Aid channels | may contact dispatch first will contact dispatch first will contact dispatch first will contact dispatch first will contact dispatch first |
| City Public Works Coroner | > via dispatch or County Channel | will contact dispatch firstwill contact dispatch first |

iii.2.5.3 Problem Areas

- o Bleed over onto E. Helena Police channel from other user groups
- o Channel 2, not enough range. > Coverage Limitation
- Dispatch does not/cannot respond > Dispatch overload > Dispatch mis-use by E. Helena Police
- Would like to communicate with Fish and Game, Airport security, Probation and Patrol, State Capital Security, Carole College Security

2.6 Rural Fire

2.6.1 Rural Fire Department Users

- Dispatch
- Rural Fire Coordinator All Agencies
- Officer in Charge
- Individual Trucks/Engines > Apparatus
- Crew Leader
- crew members
- Water Supply
- Staging
- Ops

- Officers
- Safety
- Resource Rehab
- Incident Command Staff

Other Users that Rural Fire Communicates with on an incident basis

- OIC, Fire Coord. Truck will communicate with:
 - East Helena Fire
 - VA Veteran's Affairs
 - DNRC Mutual Aid
 - LCSO
 - St. Pete's Ambulance
 - USFS Green Channel
 - BOR
 - PWD Gold Channel
 - Other County Fire Depts.
 - Jefferson County via Mutual Aid
 - Broadwater County via Mutual Aid
 - -_ Gallatin County via Mutual Aid
 - Etc.
 - 1. Helena Fire
 - 2. Helena PD
 - 3. Car/Tow Trucks Gold Channel
 - 4. Northwest Energy Gold Channel
 - 5. MDOT –

2.6.2 Rural Fire Depts.

| H.■ West Valley H.■ East Valley | |
|---------------------------------|--------------|
| . • | County |
| \/. • | Lakeside |
| V.■Wolf Creek | |
| VI. ■ | Lincoln |
| VII. ■ | Canyon Ferry |
| VIII. ■ | East Gate |
| !X.• | Baxondale |
| X. Birdseye | |



2.6.3 Rural Fire Communications

- 2 Dispatch > Officer in Charge, Fire Coordinator, Ops, Crew Leader, Trucks
- 3 Crew Leader > Ops, Staging, Water Supply, Safety, R&R
- 4 Ops > Water Supply, Safety, Resource Rehab, Staging
- Pagers currently all fire fighters can monitor the dispatch CH#1or channel #2 via their pagers. This is useful for users to determine whether they have to respond to a call when they call the size ups over the dispatch channel. On a scene they will normally change to channel 2 on the pager to listen for tactical information. Paging system is also used for "Emergency All Clear" when they need to clear a building.
- On an incident the Officer in Charge talks with everyone via a radio or pager.

Channels

Water Supply – Coral Staging – Gold R&R – Gold Ops – Red

Rural Fire Coord – Rural Fire Primary Dispatch – Channel 1, Hogback or Belmont

2.6.4 Problem Areas

- 2. Interface between radio system and paging system. How it works today vs. how it might work tomorrow.
- 3. Coverage
- 4. Capacity not enough channels on a large incident
- 5. Interoperability
- 6. Dispatch
- 7. Give information to LCSO and EMS regarding a fire updates and not to Rural Fire. Rural fire has to monitor LCSO or EMS channels for updates.

2.7 City and County Public Works

<u>⊨2.7.1</u> City and County Public Works Users

a._Public Works Department a._Mgmt. b.- Road Crew

Other Users City and County Public Works communicates with:

- 2. LCSO via dispatch or LCSO channel
- 3. DES via mutual aid channel
- 4. USFS via mutual aid channel

ii.2.7.2 Communications Today

The City and County Public Works mainly use the radio channels below for day to day communications:

- a) Repeated Channel Belmont
- Simplex Channel for Vehicle to Vehicle communications
- State Mutual Aid Channels to communicate with other Agencies

iii.2.7.3 Problem Areas

- 3. Too many users/departments on the PWD frequency (weed department, landfill, buildings, Cooney etc.) > Channel congestion/contention
- 4. Coverage outside the valley is not good enough
- 5. Need to address what users that are currently using the conventional system but are not coming onto the trunked radio system but still need to communicate with the trunked users. (i.e. garbage trucks need to communicate with landfill that are not going onto the trunked system.)



2.8 All EMS Ambulance Services

2.8.1 Ambulance Users

EMS Admin

St. Pete's Ambulance

St. Pete's Hospital

Lincoln Ambulance

Augusta Ambulance

Other Hospitals

Other Users that Ambulance Services Communicate with on an incident basis

LCSO Via LCSO main channel or Mutual Aid (Grey)/St. Pete's

downlink UHF.

East Helena PD Via E. Helena PD main channel 1

Helena PD Via HPD main channel 1
Helena Fire Via Helena Fire Main Channel
East Helena Fire Via E. Helena Fire Main Channel

Rural Fire via rural fire main channel, via Rural Fire Mutual Aid

Channels, via dispatch

MHP Mutual Aid Channel, white channel or via L&C dispatch

Lincoln, St. Pete's Mutual Aid Channel

Ambulance

Augusta Ambulance Mutual Aid Channel

Broadwater County via county main channel, Mutual Aid Channel Jefferson County via county main channel, Mutual Aid Channel

DNRC via DNRC main channel

Helena National Forest via Helena National Forest main channel

LCSAR via Mutual Aid (Grey)
Airport via airport main channel

2.8.2 Communications with System Today:

UserCommunications with DispatchCommunications Car to CarEMS AdminDispatch Communications -30%,
AmbulancesCar to Car - 70%St. Petes HospitalDispatch Communications -1 %
Dispatch Communications -1 %Car to Car - 99%Other HospitalsDispatch Communications -90%Car to Car - 10%

2.8.3 Typical Call for Ambulance Services

4. Calls are activated via dispatch/911-80% or private line telephone calls at the hospital-20%. Dispatch will invoke a page. The page comes over the radio (not via pager). EMS will acknowledge page. Status updates are made verbally to dispatch > enroute, at scene, at hospital, available.



- 5. Ambulance services can/does service parts of Jefferson County if the person calls the ambulance service directly instead of using the Jeff Co. 911 system.
- 6. DTMF tones are used to alert some hospitals of an ambulance coming in.
- 7. Ambulance downlink goes to dispatch at UHF. The uplink is via the State Mutual Aid channel (Grey)
- 8. St. Pete's Ambulance has a separate paging system/channel that is good locally (152.0075 Mhz). The antenna is located on the penthouse at St. Pete's hospital.

2.8.4 Problem Areas

- 4. Dispatch not responding > dispatch overload
- 2. Channel congestion on a large incident, channel contention
- 3. Interference on Gray channel
- 4. Coverage and In building coverage and wide area paging coverage for radio and paging.



2.9 Montana Highway Patrol

2.9.1 Montana Highway Patrol Users

a) MHP Patrol Cars

Other Users that MHP Communicates with:

- + Helena Police Dept. via dispatch
- c) Lewis and Clark County Sheriff via dispatch
- Lewis and Clark County Sheriff via Mutual Aid Channels or LCSO repeaters
- e) Lewis and Clark Search and Rescue via dispatch or County Wide DES channel (simplex channel)
- f) EMS via State EMS Channel (155.280)
- g) USFS via MHP channels
- h) Lincoln or Wolf Creek areas LCSO and MHP will communicate with each other either via the LCSO channel or MHP channel or via their respective dispatches.
- •)• On a big incident, other MHP officers from outside the L&C area will come into the L&C and will need to communicate.

2.9.2 Typical Communications for MHP with County

- :) Calls between MHP and LCSO can get initiated by either party. Calls for support are made via each other's dispatch.
- County DES channel is used for coordination of activities/incidents. This channel is monitored by MHP dispatch.
- +) All MHP cars are programmed with same set of frequencies.
- m) Some LCSO have some MHP frequencies programmed in their mobiles/portables.
- n) Car to Car communications between MHP and LCSO is either via Mutual Aid channels Gold/Silver/Blue or by using the LCSO repeaters.

2.9.3 Problem Areas

- a. Too many users on the system.
- b. When MHP officers not normally from the L&C area come into the county, there is usually some confusion on how/who to communicate with LCSO etc.
- e. MHP says that LCSO channels are too busy because their main channel is used not only for dispatch communications but also for car to car communications.
- d. MHP says that LCSO dispatch is too busy/overloaded
- e. Coverage problems with Wolf Creek Canyon
- ** Need to investigate supplying MHP dispatch with a Control Station so they can monitor the County Talk Groups

2.10 Dispatch

<u>=2.10.1</u> Agencies that use Dispatch Services

- 1. LCSO
- 2. Helena Police
- 3. Helena Fire
- 4. East Helena Police
- 5. East Helena Fire
- 6. Rural Fire
- 7. County Public Works
- 8. City Public Works
- 9. MHP

=2.10.2 Manned Dispatch Positions

3 Positions

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H. City
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<u>⊦.•_____</u>East Helena, 911, Fire

-2.10.3 Problem Areas

4. Having to listen to chatter not applicable to dispatch



2. Switching repeaters to hear traffic is a problem

3. Business Practices Recommendations for the New Radio System

3.1 Overview:

The purpose of this section of the document is to set forth for both the City of Helena and Lewis & Clark County radio system, radio system business practices for all agencies and users. While the recommended radio system business practices have been generally agreed to and will be implemented with the initial system roll out, it is expected that as the various agencies use the new trunked radio system, these business practices recommendations will likely be modified/changed as the operating conditions become more familiar with the users. It is also quite likely that the fleet map for the various user groups will change as well. The recommendations captured within this document outline the agreement between the user groups within Lewis and Clark County on how they would like to operate on the new trunked radio system.

The following recommendations were captured as a result of joint sessions of participating agencies, representatives, and the Motorola project team during September 2004.

3.2 Terminology and Abbreviations:

The following are some common terms and abbreviations with brief definitions used in this document and across Motorola radio systems in general. A more complete / diverse glossary of terms can be found towards the back of the "SmartZone Manager Enhanced User's Manual" part number 68P80800B60 or later edition equivalents.

3.2.1. Trunking, trunked:

A computer-controlled radio system, in which individual radio channels are grouped together as a common resource for all system users. Each radio request to place a call on the system is directed to an unused channel by the main computer. Progress and assignment of call resources is transparent to the radio user.



3.2.2. Talkgroup vs. Channel:

"Talkgroup" is often used synonymously with "channel". However, a "channel" is actually a specific radio frequency (radio channel), whereas a "talkgroup" is actually a computer-generated partition. A channel always operates on a specific radio channel, whereas a talkgroup can be assigned to any radio channel used by the system. The underlying channel-changing process for talkgroup activity is transparent to the user.

3.2.3. Mode vs. Channel:

A "mode" commonly refers to the displayed or selector switch positions on a subscriber radio. The key point to remember is that a "mode" can represent a collection of parameters. For instance, mode 1 on the radio might represent a conventional simplex "channel", with a certain receive / transmit squelch code combination (PL), a certain transmitter power level, and a modulation type... such as analog or P25 digital. Therefore, a "channel" might only represent a small portion of the functions that make up the contents of a "mode".

3.2.4. Talkgroup and Channel types:

For the Lewis & Clark system, trunked talkgroups and conventional channels are grouped by function as follows:

- a.A. <u>Dispatch (D1) talkgroups:</u> For dispatching to or from responding field units, no unit-to-unit side bars allowed.
- b.B. OPS or TAC talkgroups: For individual agency operational primary radio traffic; a key agency working talkgroup. Law agencies opted to use the term "OPS", whereas Fire agencies opted to use the term "TAC".
- e.C. ADM or Administrative talkgroups: Non operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talkgroups are generally for exclusive use of the particular agency, and are not included in the programming lists for other agencies. However, Dispatch is capable of operating on all ADM talkgroups if needed.
- d.D. <u>LE or law enforcement shared talkgroups or channels:</u> Shared trunked talkgroups and/or conventional repeater or simplex channels for interagency law OPS radio traffic.
- e.E. <u>Incident INC / Command talkgroups:</u> Interagency and multiple agency responses and incidents. For everyday incidents, but becomes a command and coordination talkgroup for large scale incidents.
- £.F.Technical Services and Test talkgroups: For maintenance and testing and system manager operations
- g.G. Conventional Repeaters and simplex channels: local city, local or adjacent county, regional, and Statewide radio channels for simplex (talkaround) and/or repeated (repeater) incident traffic, interoperability, and/or Mutual Aid purposes.

3.2.5. Zone:

This can have two unrelated meanings. A "zone" represents a geographical region covered by a SmartZone system. However, when referring to programming a subscriber radio, a "zone" usually represents a group or "bank" of up to 16 talkgroups.

3.2.6. SmartZone System:

A trunking system using multiple sites with a variable number of repeaters to cover large geographical areas. A SmartZone Controller computer resides over the entire system.

3.2.7. Affiliate:

When a radio successfully registers itself on the system and becomes associated with a trunked radio site, it becomes affiliated (active) on the system.

3.2.8. Aliases:

Friendly alphanumeric names given to radios or units in place of radio identification numbers. This can also refer to any cross-representation of data to a more understandable written form. Portable aliases can be identified by operator proper names or badge numbers, since radios are normally assigned to individuals. Mobile-mounted radios will be identified by vehicular unit numbers, especially since different operators share the same vehicle across multiple shifts and possible locations.

3.3 Trunked System Direct Impact on Operation Functionality Summary

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-3.3.1. Frequency Efficiency:

Radio channels which were once dedicated to a specific agency and/or function now become shared resources across all agencies. The system master computer (SmartZone Controller) becomes the arbitrator of radio channel resources. For details regarding channels and site data, refer to Lewis & Clark System Fleetmapping spreadsheets and templates.



3.3.2. Dispatch Operations:

Operators who previously monitored dispatch channels contended with numerous other functions and unit-to-unit activities on a single radio channel. Operators will now monitor only dispatch-related operations, allowing irrelevant tactical and/or administrative activities to take place on alternate un-monitored talkgroups. Dispatch will be capable of selecting conventional radio repeaters located at all trunked system sites for conventional rural agency operations, but those won't be monitored unless a specific incident warrants monitoring.

3.3.3 System Access:

The previous conventional system wasn't capable of coordination or prioritization of radio traffic. The new system is computer controlled, which coordinates all activities and resources, and assigns pre-determined priorities for each agency and/or talkgroup.

3.3.4 Interoperability:

Both the previous conventional system and the replacement trunked system share a Motorola Dispatch console sub-system, which provides the cross-connection point for independent radio channels and systems. The new system integrates and expands interoperability to include multiple agencies across multiple sites and across both digital and analog protocols.

3.3.5 Features & Capabilities:

The previous system has negligible integrated infrastructure, disallowing system features to pass across communications boundaries. The new system consists of a fully integrated infrastructure, allowing an expanding array of digitally-controlled and enhanced radio feature sets and capabilities to be shared by the entire system. These include:

- a. <u>Call Alert:</u> Dispatch or unit to unit alert notification with aliases. Any intraagency call alert is notification to both units to meet on their assigned ADMIN talkgroup. Any inter-agency call alert is notification to both units to meet on the CALERT talkgroup.
- b. <u>Status-messaging:</u> Field unit radios send pre-defined status messages to dispatch console, which will appear on the operator activity logs. Dispatchers will still have to manually input/update status/message information into CAD for each incident. Most system subscriber radios include status-messaging capability. However, only selected mobile units include a simplified one button status/message control head.

Typical status-message aliases:

- 1. Enroute
- 2. Arrived on Scene
- 3. Clear
- 4. Available
- c. <u>Emergency alarm & call:</u> Tactical voice channel with silent and/or Dispatch acknowledgement of individual unit alarms. A user who generates an alarm will stay on the current talkgroup (tactical), and upon pushing the radio PTT, the initiating unit will take control of that talkgroup for 30 seconds. Law Enforcement agencies opted for silent alarm, meaning that the initiating radio makes no visible indication that an alarm has occurred. Fire agencies opted for audible alarm with dispatch console acknowledgement.

 All alarms must be acknowledged by any dispatch operator positions capable of selecting or monitoring applicable subscriber units talkgroups.
- d. <u>Roaming:</u> Site to site automatic registration and affiliation with preferences. Each talkgroup has been assigned system sites resource preferences, based upon expected areas of operations and agency requirements. Default values for signal strength thresholds and filter delays will be used.
- e. Systemwide call routing, user registration, and talkgroup priority levels: The SmartZone computer overlay controls systemwide routing and assignment of all voice channel resources, including data processing for Call Alert, Emergency Alarm functions, and all systemwide trunking functions. Each talkgroup type can have a different priority level, such that if the system were busy, call resource assignment is based upon a pre-assigned priority level, of up to 10 levels. For example, emergency calls are handled as priority 1, Multigroup calls as priority 2, dispatch talkgroup calls as priority 3, tactical talkgroup calls as priority 5, administrative talkgroup calls as priority 7, testing / maintenance talkgroup calls as priority 9, and unassigned talkgroups as priority 10.
- f. Wide area and site trunking: Wide area SmartZone trunking is the normal mode of operation. In case of critical microwave link failures or main system computer failure, the overall trunked system will revert to "site trunking" mode. In this mode, all of the system remote sites remain in trunking mode, but they become standalone in operation. User radios already registered onto a site will normally stay there. However, subscriber radios are capable of being manually forced to specific system remote sites, but applicable SmartZone feature sets are then compromised; this feature should be reserved only for critical communications needs in the event of back up to site trunking mode.
- g. <u>Failsoft:</u> This is the lowest level of system back-up capability, for which system radios will automatically revert to pre-determined site and channel

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assignments and maintain conventional system communications with common users and agencies on trunked system repeater channels. Keep in mind that the hierarchy of internal programming for trunked radios is to stay trunked; such that if a Failsoft situation occurs, the radio will want to hunt for a site that is still in trunking mode.

h. Multigroup calls: This is a specialized talkgroup for Dispatch or authorized subscriber radios to initiate group calls to entire agencies at the same time. Multigroup Calls are prioritized on an "Allstart" basis, meaning that the call won't begin until a path is open to all active receiving units without ruthlessly pre-empting a transmission in progress. Four Multigroup Call talkgroups have been identified initially:

MGCSAR = All Search & Rescue; MGCHFD = All Helena Fire; MGCRF = All Rural Fire; MGCGSD = All Dept. of Administration

- i. <u>Private calls:</u> Unit to unit private conversation capability; this feature disallowed until system resources grow to handle the additional traffic load.
- j. <u>Secure voice:</u> Both console and individual units have encryption capabilities, some field units are also capable of multiple key codes. Common key codes have been grouped and assigned as follows:

Key 1 = All field units;

Key 2 = Unit Leaders;

Key 3 = Command Units;

Key 4 = EMS;

Key 5 = Non Public Safety

- k. <u>Selective radio inhibit:</u> This is a Radio Dispatch Management (RDM) feature which cancels transmit and receive functions of a radio unit over the air (assuming the radio is turned on and in range of the system.) In particular, a stolen radio can be disabled and rendered useless.
- I. <u>Interoperability/patching:</u> This summarizes interfacing of resources via trunked-to-trunked and trunked-to-conventional patching, and can utilize permanent patching via a Console Electronics Bank (CEB), dispatch operator initiated temporary patches, and/or external hardware patching devices such as LYRIX.
- m. <u>System Air traffic and historical reports records:</u> This feature stores system operational data and can organize it and report system traffic and utilization in a number of useful ways.

- n. <u>System RF resources:</u> No system radio channel resources are used if no user radios are affiliated to operate on a talkgroup. Only sites with active units affiliated on them will carry traffic. No system remote sites will be considered off limits to trunked user radios.
- o. <u>Trunked and Conventional Scan:</u> A scanning radio normally can only receive trunked talkgroups that are affiliated at the same site it is affiliated at. Conventional scan can receive any channel in its list. Priority monitor allows a scanning radio to switch to the priority talkgroup/channel even if scan halts for normal traffic. However, if a radio scans both conventional channels and trunked talkgroups together, the priority scan/monitor feature is non-functional. Units will not de-register from the trunked system if conventional channels are included in the scan list.

To prevent user radios from accidentally talking back to a just-scanned channel or talkgroup, the hangtime hold timer is set to zero seconds (0s).

-3.3.6. Hierarchy for Establishment and Elevation of Incidents and System Resources:

3.3.6.1 No Activity:

If there are no pertinent active calls or incidents, no active unit-to-unit meeting, all field units must stay on their respective Dispatch (D1) talkgroups. Monitoring of non-essential system activity is discouraged and prohibited.

3.3.6.2 Fire & EMS Call Initiation Steps:

- A. <u>First Action</u>: Dispatch initiates the call by sending out a page to applicable units and individuals.
- B. <u>Second Action</u>: Field units and individuals respond to and acknowledge the page verbally on their dispatch (D1) talkgroup directly to Dispatch.
- C. <u>Third Action</u>: Responding field units send a status-message to Dispatch that they are enroute the scene or incident.
- D. <u>Fourth Action</u>: Dispatch will enter into CAD the status activity and time for each responding unit.

3.3.6.3 Law Enforcement Call initiation Steps:

- A. <u>First Action</u>: Dispatch initiates the call verbally over the Dispatch (D1) talkgroup to expected responding units and individuals.
- B. <u>Second Action</u>: Responding field units acknowledge verbally they are enroute the scene or incident on their dispatch (D1) talkgroup directly to Dispatch.
- C. <u>Third Action</u>: Dispatch will enter into CAD the status activity and time for each responding unit.



3.3.6.4 Dispatch Intermediate Communications:

- A. Dispatch can verbally send updated call or incident information directly to responding units over the chosen active response talkgroup, to any series of chosen response talkgroups using the console Multi-Select function, and/or send an informational alphanumeric page to applicable units.
- B. Dispatch can manually patch non-trunked (conventional) users to an incident talkgroup if requested by the incident commander.

3.3.6.5 Responding Agencies Incident Elevation Hierarchy:

- A. If an incident involves only a single responding individual or unit, the call will remain on the Dispatch (D1) talkgroup.
- B. If an incident or call involves only a single agency response, once the call responders have been acknowledged by Dispatch, the incident commander or officer in charge will move the call off the Dispatch (D1) talkgroup and onto their OPS talkgroup (for law enforcement) or a TAC talkgroup (for Fire / EMS). Fire utilizes multiple numbered TAC talkgroups; therefore, the incident commander (IC) will need to assign a TAC talkgroup number for respondents to move to. In the event the TAC talkgroup is already in use, the incident commander will need to determine a clear TAC talkgroup, move all respondents to the new talkgroup, and then advise Dispatch (D1) of the change. Note that Dispatch is capable of monitoring Helena Fire TAC talkgroups, but not Rural Fire TAC talkgroups.
- C. If an incident or call involves a multi-agency response, once the call responders have been acknowledged by Dispatch, incident activity will be immediately moved off the Dispatch (D1) talkgroup and onto 1 of 5 incident/command talkgroups (INC 1 – 5). Dispatch will both assign the incident talkgroup and identify the incident commander (IC).
- D. If a multi-agency response is an "everyday incident", applicable units will stay on the numbered Incident talkgroup until they clear the scene. If any units require additional information, they can switch momentarily to their Dispatch (D1) talkgroup to obtain the information. If a side-bar discussion is needed, applicable units can switch momentarily to their OPS or TAC or ADM talkgroups.
- E. If a multi-agency response elevates to a "large scale" incident, the on-scene incident commander/s will be assigned to coordinate and/or stage the response. Responding units or groups will be assigned alternate talkgroups or conventional channel resources at the discretion of incident commander/s. Additional incident (INC 1 − 5) talkgroups may be assigned as needed by the IC to handle incident complexities. Dispatch is capable of monitoring any of the incident (INC 1 − 5) talkgroups, and will communicate update information

- to the incident commanders via their incident/command talkgroup. Note that the incident commander is determined inherently in the process.
- F. To clear an Incident talkgroup, the last unit on scene to downgrade the incident will call Dispatch on their Dispatch (D1) talkgroup to release the incident (INC 1 − 5) talkgroup. Note that an incident may also be downgraded to single agency or single individual incident status, causing incident communications to revert back to a TAC, OPS, or Dispatch talkgroup. The incident commander is normally the last individual to clear a scene.

3.4 Ancillary Guidelines

3.4.1 Circumstances for Which Radio Traffic May Leave the Trunked System for a Conventional Resource

- A. Field tactical operations or incidents for which simplex channels or local repeater usage within a confined perimeter is warranted, and where temporary loss of trunked system capabilities or features wouldn't pose a situational safety issue.
- B. An active localized radio group or tactical situation which is unduly tying up limited system resources and causing excessive system busies.
- C. Rural agencies, adjacent counties or statewide mutual aid incidents and/or situations for which common trunked radio resources, patches, or properly programmed/registered trunked radios are not available.
- D. User radios are geographically out of range of the trunked system.

3.4.2 Airtime Usage and System Busies

SmartZone Manager terminals running Zone Watch, and the Historical Reports computer allow collection and display of systemwide airtime usage data. These tools make it possible to investigate and track how the trunked system is being used, Zone Watch in real time and Historical Reports over extended periods. When trunked system voice channel resources are all in use, the next requesting unit will get a busy signal. When the next available resource opens up, that requesting unit will be given a go-ahead tone and a voice channel grant. If the system experiences excessive and/or lengthy busies, the airtime usage tools can be utilized to help pinpoint problem areas and to make corrective recommendations.



3.4.3 System Problem Reporting

A comprehensive system problem/issue reporting form will be utilized to collect useful data and information about system-related issues or complaints. All blanks on the form will need to be filled out completely to validate the submission and to start investigation. Questions on the form to include the following:

- 4.A. Exactly where did the issue first happen?
- 5.B. Was it a one time event or can it be duplicated in the same location with any regularity? Is it a chronic issue?
- 6.C. Did it matter where you were when it happened?
- 7.D. What were the radio settings when it happened? What talkgroups or channels were active?
- 8.E. Were there other radios in the area or perhaps sharing the same talkgroups that experienced the same issue at the same time you did?
- 9.F. What was the radio equipment number and/or identification?
- 40.G. Were there communication towers or other nearby radios or possible sources of radio interference visible in the area? What were they?
- 41.<u>H.</u> What time and date did it first happen? Did it happen periodically afterwards?
- 42.1. Who was operating the radio equipment? Name, shift, contact information.
- 43.J. What audio queues were present when it happened?
- 14.K. If a portable radio, was the radio located on your person? If so, how was it worn?
- 15.L. In your estimation, could the issue be directly related to your radio equipment or to the system?

4. Lewis and Clark County Sheriff

4.1 New System Communications Hierarchy and Protocols

4.1.1 Day to Day Communications; Communicating with Dispatch

a) ._ Simple Call Description

a.1. No Activity:

 If there are no pertinent active calls or incidents, no active unit-to-unit meetings, all field units must stay on the primary Dispatch talkgroup (SO D1). Monitoring of non-essential system activity is discouraged and prohibited.

b.2. Call Initiation Steps (Dispatch to Field)

- First Action: Dispatch initiates the call verbally over the Dispatch (D1) talkgroup to expected responding units and individuals, utilizing their alias unit ID.
- Second Action: Responding field units acknowledge verbally with their alias unit ID, that they are enroute the scene or incident on the dispatch (D1) talkgroup directly to Dispatch.
- Third Action: Dispatch will enter into CAD the status activity and time for each responding unit.
 Dispatch can acknowledge completed data entry and time to the responding unit if requested.

e.3. Call Initiation Steps (Field to Dispatch)

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- First Action: Field unit initiates the call verbally over the Dispatch (D1) talkgroup to Dispatch operator, identifying his alias unit ID.
- Second Action: Dispatch will verbally acknowledge the calling unit with their alias unit ID. If applicable, Dispatch will also advise the calling unit of any situation or incident in progress that would need to limit or delay the calling field unit from completing their request.
- Third Action: Field unit completes their request or message to Dispatch.
- Fourth Action: Dispatch acknowledges the field unit by repeating their alias unit ID, responds to



their request or message and then completes the exchange with the time.

d.4. Dispatch Intermediate Communication Calls

- Dispatch can verbally send updated call or incident information directly to responding units over the chosen active response talkgroup, to any series of chosen response talkgroups using the console Multi-Select function, and/or send an informational alphanumeric page to equipped applicable units.
- Dispatch can manually patch non-trunked (conventional) users to an incident talkgroup if requested by the incident commander.

b)II. System-Related SO Talkgroup names & Conventional Channel Resources

1. Trunked System Talkgroup Names:

5 SO D1: Sheriff Primary Dispatch 1; Monitored by

all field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests are not to be made on the dispatch channel unless there are call alert or other safety issues involved.

alert or other safety issues involved.SO Operations; Agency operational

5 SO OPS: SO Operations; Agency operational primary radio traffic handling, a key

agency working talkgroup

5 SO ADM: SO Admin; Non operational secondary

radio traffic, and for intra-agency unit-tounit meetings. ADM talkgroups are generally for exclusive use of the agency,

and are generally not included in the programming lists for other agencies.

Dispatch is capable of operating on the

ADM talkgroup as needed.

5 SAROPS: Search & Rescue Operations: Operational

primary radio traffic handling for search

and rescue operations.

5 SARADM: Search & Rescue Admin: Non operational

secondary radio traffic, and for intraagency unit-to-unit meetings. ADM

talkgroups are generally for exclusive use

of the agency, and are generally not

included in the programming lists for other agencies. Dispatch is capable of operating on the ADM talkgroup as needed.

5 LAW TG: Law Enforcement Shared + Explosives Disposal Team; Operational secondary shared talkgroup for inter-agency law radio traffic.

5 JAIL: Lewis & Clark Jail / Detention Limited usage non operational talkgroup, primarily for passing messages and requests into and out of SO Detention. The primary operational means of communications for the jail is existing simplex UHF channel.

5 MRDTF: Missouri River Drug task Force
Operational agency primary radio traffic talkgroup

5 EH TG: E. Helena patched Rptr. Talkgroup Limited interop. talkgroup, permanentpatched to conventional site repeater.

5 SS TG: Sunset patch Rptr. Talkgroup Limited interop. talkgroup, permanent- Patched to

conventional site repeater.

5 WC TG: Wolf Creek patch Rptr. Talkgroup Limited interop. talkgroup, permanent-Patched to

conventional site repeater.

5 MP TG: Mac Pass patched Rptr. Talkgroup Limited interop. talkgroup, permanent-Patched to conventional site repeater.

5 BM TG: Belmont patched Rptr. Talkgroup Limited interop. talkgroup, permanent-patched to conventional site repeater.

Hogback patched Rptr. Talkgroup Limited interop. talkgroup, permanent-patched to conventional site repeater.

Helena LEC patched Rptr. Talkgroup Limited interop. Talkgroup, permanent-patched to conventional site repeater.

5 INC1: Incident #1 (interagency/command)
Inter-agency / multiple agency / command
and control interop. operational Incident

and response talkgroup.

5 HB TG:

5 LEC TG:

5 INC 2: Incident #2 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 3: Incident #3 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 4: Incident #4 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 5: Incident #5 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 CALERT: Interagency Call Alert Meeting Talkgroup

Non operational interagency meeting place talkgroup. When a unit pages another unit between different agencies, this is the default talkgroup rendezvous

point.

e)III. Conventional Channel Resources:

5 LE OPS: Helena PD & SO Operations simplex

Local talkaround operational radio traffic

for Helena PD and SO units

5 SWAT 2: Analog or P25 SWAT2 operations simplex

Local talkaround operational radio traffic

for SWAT and related law teams

5 SWAT 3: Analog or P25 SWAT3 operations simplex

Local talkaround operational radio traffic

For SWAT and related law teams

5 LC SAR: Search & Rescue operations simplex

Local talkaround operational radio traffic

For Search & Rescue teams

5 AG RP: Augusta Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 HJ RP: Hedges Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 SW RP: Stonewall Interop. Analog or P25 Rptr. Conventional site interop. repeater permanent-patched to trunked system talkgroup

5 EH RP: E. Helena Interop. Analog Rptr.
Conventional site interop. repeater
permanent-patched to trunked system
talkgroup

5 WC RP: Wolf Creek Interop. Analog Rptr.
Conventional site interop. repeater
permanent-patched to trunked system
talkgroup

5 SS RP: Sunset Interop. Analog Rptr. Conventional site interop. repeater permanent-patched to trunked system talkgroup

5 BM RP: Belmont Interop. Analog Rptr.
Conventional site interop. repeater
permanent-patched to trunked system
talkgroup

5 MP RP: Mac Pass Interop. Analog Rptr.
Conventional site interop. repeater
permanent-patched to trunked system
talkgroup

5 HB RP: Hogback Interop. Analog Rptr.
Conventional site interop. repeater
permanent-patched to trunked system
talkgroup

5 MH RP1: Mt. Helena b/u Rptr. 1 Analog repeater for back up operations

5 MH RP2: Mt. Helena b/u Rptr. 2 Analog repeater for back up operations

5 MH RP3: Mt. Helena Shared Law Enforcement Analog repeater for back up operations

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4.1.2 Handling Everyday incidents

- a) If an incident involves only a single responding individual or unit, the call will remain on the Dispatch (D1) talkgroup
- b) If an incident or call involves only a single agency response, once the call responders have been acknowledged by Dispatch, the incident commander or officer in charge will move the call off the Dispatch (D1) talkgroup and onto their OPS talkgroup. In the event the OPS talkgroup is already in use, the incident commander will need to determine a clear operations talkgroup, and then advise Dispatch (D1) of the change.

4.1.3 Handling a major incident

- a) If an incident or call involves a multi-agency response, once the call responders have been acknowledged by Dispatch, incident activity will be immediately moved off the Dispatch (D1) talkgroup and onto 1 of 5 Incident/Command talkgroups (INC 1 – 5). Dispatch will both assign the incident talkgroup and identify the incident commander (IC).
- b) If a multi-agency response is an "everyday incident", applicable units will stay on the numbered incident talkgroup until they clear the scene. If any units require additional information, they can switch momentarily to their Dispatch (D1) talkgroup to obtain the information. If a side-bar discussion is needed, applicable units can switch momentarily to their OPS or ADM talkgroups.
- c) If a multi-agency response elevates to a "large scale" incident, the on-scene incident commander/s (IC) will be assigned to coordinate and/or stage the response. Responding units or groups will be assigned alternate talkgroups or conventional channel resources at the discretion of incident commander/s. Additional incident (INC 1 5) talkgroups may be assigned as needed by the IC to handle incident complexities. Dispatch is capable of monitoring any of the incident (INC 1- 5) talkgroups, and will communicate update information to the incident commanders via their incident/command talkgroup. Note that the incident commander is determined inherently in the process.
- d) d. To clear an Incident talkgroup, the last unit on scene to downgrade the incident will call their Dispatch (D1) talkgroup to release the incident (INC 1 − 5) talkgroup. Note that an incident

may also be downgraded to single agency or single individual incident status, causing incident communications to revert back to an OPS or Dispatch talkgroup. The incident commander is normally the last individual to clear a scene.

4.1.4 Encryption usage

The decision to use encryption depends primarily upon sensitivity of information content and the situation at hand. Encryption primarily blocks the public from monitoring personal, sensitive or potentially compromising information. Secondarily, encryption prevents interception of messages and critical decision-making processes at different agency levels. The county decided on the following five (5) level encryption key hierarchy:

| Agency Name | Common Key | TG's Usage |
|-------------------|------------|--------------------------------------------------|
| All Field Units | 1 | Dispatch, Admin, Shared/Common function, Patched |
| All Unit Leaders | 2 | OPS, TAC |
| All Command Units | 3 | Incident/Command, Drug Task Force, SWAT, Coroner |
| EMS | 4 | EMS only |
| Non Public Safety | 5 | Non Public Safety |

Since the trunked system is already P25 Astro Digital IMBE protocol, switching to encryption mode causes no degradation to audio quality or radio coverage. There is one caution for radios equipped with encryption: A field unit receiving a call from another encrypted radio yields no audio queue whether the call originated in clear or encrypted mode. As such, it is up to the receiving unit to look at their display for indication that the call was encrypted and to switch over to the appropriate mode.

4.1.5 Applicable Call Alert, Status Messaging, and Emergency Alarm & Call

•a. Call Alert:

The primary purpose of call alert is to allow Dispatch or trunked radio units to contact each other (using aliases), regardless of which talkgroup they may be monitoring or affiliated with while operating on the trunked system.

Any intra-agency call alert notifications signify that both units are to meet on their assigned ADMIN talkgroup. Any inter-agency call alert is notification to both units to meet on the CALERT talkgroup.

<u>b.</u> Status Messaging:

Field unit radios send pre-defined status messages to the Dispatch console, which will appear on the operator activity logs. Dispatchers



will still have to manually input/update status/message information into CAD for each incident. Most system subscriber radios include a status-messaging capability. However, only selected mobile units include a simplified one button status/message control head.

Typical status-message aliases:

- •1. Enroute
- •2. Arrived on Scene
- •3. Clear
- •4. Available

•c. Emergency Alarm & Call

Due to the potential for safety issues in the field, SO units opted for silent alarm, meaning that the initiating radio makes no visible or audible indication that an alarm has occurred. A user who generates an alarm will stay on the current talkgroup (tactical), and upon pushing the radio PTT, the initiating unit will take control of that talkgroup for 30 seconds. All alarms must be acknowledged by any dispatch operator positions capable of selecting or monitoring the applicable field units or talkgroups.

5. City of Helena Police Department

5.1 New System Communications Hierarchy and Protocols

5.1.1 Day to Day Communications; Communicating with Dispatch

- I. Simple Call Description
 - a.1. No Activity:
 - If there are no pertinent active calls or incidents, no active unit-to-unit meetings, all field units must stay on the primary Dispatch talkgroup (HP D1). Monitoring of non-essential system activity is discouraged and prohibited.

b.2. Call Initiation Steps (Dispatch to Field)

- First Action: Dispatch initiates the call verbally over the Dispatch (D1) talkgroup to expected responding units and individuals, utilizing their alias unit ID.
- Second Action: Responding field units acknowledge verbally with their alias unit ID, that they are enroute the scene or incident on the dispatch (D1) talkgroup directly to Dispatch.
- Third Action: Dispatch will enter into CAD the status activity and time for each responding unit.
 Dispatch can acknowledge completed data entry and time to the responding unit if requested.

c.3. Call Initiation Steps (Field to Dispatch)

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- First Action: Field unit initiates the call verbally over the Dispatch (D1) talkgroup to Dispatch operator, identifying his alias unit ID.
- Second Action: Dispatch will verbally acknowledge the calling unit with their alias unit ID. If applicable, Dispatch will also advise the calling unit of any situation or incident in progress that would need to limit or delay the calling field unit from completing their request.
- Third Action: Field unit completes their request or message to Dispatch.
- Fourth Action: Dispatch acknowledges the field unit by repeating their alias unit ID, responds to



their request or message and then completes the exchange with the time.

Dispatch Intermediate Communication Calls

- Dispatch can verbally send updated call or incident information directly to responding units over the chosen active response talkgroup, to any series of chosen response talkgroups using the console Multi-Select function, and/or send an informational alphanumeric page to equipped applicable units.
- Dispatch can manually patch non-trunked (conventional) users to an incident talkgroup if requested by the incident commander.

II. System-Related Helena PD Talkgroup names & Conventional Channel Resources

1. Trunked System Talkgroup Names:

Helena Police Dispatch 1 Monitored by all 5 HP D1:

> field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests are not to be made on the dispatch channel unless there are call

alert or other safety issues involved.

5 HP OPS: Helena PD Operations; Agency operational primary radio traffic

handling, a key agency working talkgroup

Helena PD Admin; Non operational 5 HP ADM:

> secondary radio traffic, and for intraagency unit-to-unit meetings. ADM

talkgroups are generally for exclusive use of the agency, and are generally not

included in the programming lists for other

agencies. Dispatch is capable of operating on the ADM talkgroup as

needed.

5 SWAT 1: Helena PD SWAT Operations Trunked

operational radio traffic talkgroup for

SWAT and related law teams

5 LAW TG: Law Enforcement Shared + Explosives

Disposal Team; Operational secondary shared talkgroup for inter-agency law

radio traffic.

5 INC1: Incident #1 (interagency/command) Inter-

> agency / multiple agency / command and control interop, operational Incident and

response talkgroup.

5 INC 2: Incident #2 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 3: Incident #3 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 4: Incident #4 (interagency/command) Inter-

> agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 5: Incident #5 (interagency/command) Inter-

> agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

Interagency Call Alert Meeting Talkgroup 5 CALERT:

Non operational interagency meeting place talkgroup. When a unit pages another unit between different agencies. this is the default talkgroup rendezvous

point.

III. Conventional Channel Resources:

5 LE OPS: Helena PD & SO Operations simplex

Local talkaround operational radio traffic

for Helena PD and SO units

5 SWAT 2: Analog or P25 SWAT2 operations simplex

Local talkaround operational radio traffic

for SWAT and related law teams

5 SWAT 3: Analog or P25 SWAT3 operations simplex

Local talkaround operational radio traffic

For SWAT and related law teams

5 MH RP1: Mt. Helena b/u Rptr. 1 Analog repeater for

back up operations

5 MH RP2: Mt. Helena b/u Rptr. 2 Analog repeater for

back up operations



5.1.2 Handling Everyday incidents

- a) If an incident involves only a single responding individual or unit, the call will remain on the Dispatch (D1) talkgroup
- b) If an incident or call involves only a single agency response, once the call responders have been acknowledged by Dispatch, the incident commander or officer in charge will move the call off the Dispatch (D1) talkgroup and onto their OPS talkgroup. In the event the OPS talkgroup is already in use, the incident commander will need to determine a clear operations talkgroup, and then advise Dispatch (D1) of the change.

5.1.3 Handling a major incident

- a) If an incident or call involves a multi-agency response, once the call responders have been acknowledged by Dispatch, incident activity will be immediately moved off the Dispatch (D1) talkgroup and onto 1 of 5 Incident/Command talkgroups (INC 1 – 5). Dispatch will both assign the incident talkgroup and identify the incident commander (IC).
- b) If a multi-agency response is an "everyday incident", applicable units will stay on the numbered incident talkgroup until they clear the scene. If any units require additional information, they can switch momentarily to their Dispatch (D1) talkgroup to obtain the information. If a side-bar discussion is needed, applicable units can switch momentarily to their OPS or ADM talkgroups.
- c) If a multi-agency response elevates to a "large scale" incident, the on-scene incident commander/s (IC) will be assigned to coordinate and/or stage the response. Responding units or groups will be assigned alternate talkgroups or conventional channel resources at the discretion of incident commander/s. Additional incident (INC 1 5) talkgroups may be assigned as needed by the IC to handle incident complexities. Dispatch is capable of monitoring any of the incident (INC 1- 5) talkgroups, and will communicate update information to the incident commanders via their incident/command talkgroup. Note that the incident commander is determined inherently in the process.
- d) To clear an Incident talkgroup, the last unit on scene to downgrade the incident will call their Dispatch (D1) talkgroup to release the incident (INC 1 5) talkgroup. Note that an incident may also be downgraded to single agency or single individual incident status,

causing incident communications to revert back to an OPS or Dispatch talkgroup. The incident commander is normally the last individual to clear a scene.

5.1.4 Encryption usage

The decision to use encryption depends primarily upon sensitivity of information content and the situation at hand. Encryption primarily blocks the public from monitoring personal, sensitive or potentially compromising information. Secondarily, encryption prevents interception of messages and critical decision-making processes at different agency levels. The county decided on the following five (5) level encryption key hierarchy:

| Agency Name | Common Key | TG's Usage |
|-------------------|------------|--------------------------------------------------|
| All Field Units | 1 | Dispatch, Admin, Shared/Common function, Patched |
| All Unit Leaders | 2 | OPS, TAC |
| All Command Units | 3 | Incident/Command, Drug Task Force, SWAT, Coroner |
| EMS | 4 | EMS only |
| Non Public Safety | 5 | Non Public Safety |

Since the trunked system is already P25 Astro Digital IMBE protocol, switching to encryption mode causes no degradation to audio quality or radio coverage. There is one caution for radios equipped with encryption: A field unit receiving a call from another encrypted radio yields no audio queue whether the call originated in clear or encrypted mode. As such, it is up to the receiving unit to look at their display for indication that the call was encrypted or not, and to switch over to the appropriate mode.

5.1.5 Applicable Call Alert, Status Messaging, and Emergency Alarm & Call

a. Call Alert:

The primary purpose of call alert is to allow Dispatch or trunked radio units to contact each other (using aliases), regardless of which talkgroup they may be monitoring or affiliated with while operating on the trunked system.

Any intra-agency call alert notifications signify that both units are to meet on their assigned ADMIN talkgroup. Any inter-agency call alert is notification to both units to meet on the CALERT talkgroup.

b. Status Messaging:

Field unit radios send pre-defined status messages to the Dispatch console, which will appear on the operator activity logs. Dispatchers will still have to manually input/update status/message information into CAD for each incident. Most system subscriber radios include a status-



messaging capability. However, only selected mobile units include a simplified one button status/message control head.

Typical status-message aliases:

- 1. Enroute
- 2. Arrived on Scene
- 3. Clear
- 4. Available
- c. Emergency Alarm & Call

Due to the potential for safety issues in the field, SO units opted for silent alarm, meaning that the initiating radio makes no visible or audible indication that an alarm has occurred. A user who generates an alarm will stay on the current talkgroup (tactical), and upon pushing the radio PTT, the initiating unit will take control of that talkgroup for 30 seconds. All alarms must be acknowledged by any dispatch operator positions capable of selecting or monitoring the applicable field units or talkgroups.

6. City of Helena Fire Department

6.1 New System Communications Hierarchy and Protocols

6.1.1 Day to Day Communications; Communicating with Dispatch

- I. Simple Call Description
 - 1. No Activity:
 - If there are no pertinent active calls or incidents, no active unit-to-unit meetings, all field units must stay on the primary Dispatch talkgroup (HFD D1). Monitoring of non-essential system activity is discouraged and prohibited.

2. Call Initiation Steps (Dispatch to Field)

- First Action: Dispatch initiates the call by sending out a page to applicable units and individuals.
- Second Action: Field units and individuals respond to and acknowledge the page verbally on their dispatch (D1) talkgroup directly to Dispatch.
- Third Action: Responding field units send a status-message to Dispatch that they are enroute the scene or incident.
- Fourth Action: Dispatch will enter into CAD the status activity and time for each responding unit.

3. Call Initiation Steps (Field to Dispatch)

- First Action: Field unit initiates the call verbally over the Dispatch (D1) talkgroup to Dispatch operator, identifying his alias unit ID.
- Second Action: Dispatch will verbally acknowledge the calling unit with their alias unit ID. If applicable, Dispatch will also advise the calling unit of any situation or incident in progress that would need to limit or delay the calling field unit from completing their request.



- Third Action: Field unit completes their request or message to Dispatch.
- Fourth Action: Dispatch acknowledges the field unit by repeating their alias unit ID, responds to their request or message and then completes the exchange with the time.

1. <u>Dispatch Intermediate Communication Calls</u>

- Dispatch can verbally send updated call or incident information directly to responding units over the chosen active response talkgroup, to any series of chosen response talkgroups using the console Multi-Select function, and/or send an informational alphanumeric page to equipped applicable units.
- Dispatch can manually patch non-trunked (conventional) users to an incident talkgroup if requested by the incident commander.

II. <u>System-Related Helena Fire Talkgroup names & Conventional Channel Resources</u>

1. Trunked System Talkgroup Names:

5 HFD D1: Fire Primary Dispatch 1; Monitored by all field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests are not to be made on the dispatch channel unless there are call alert or other safety issues involved.

5 HFTAC1 & 5 HFTAC2: Helena Fire Operations;
Agency operational primary radio traffic handling, key agency working talkgroups

5 HFDADM: Helena Fire Admin; Non operational secondary radio traffic, and for intraagency unit-to-unit meetings. ADM talkgroups are generally for exclusive use of the agency, and are generally not included in the programming lists for other agencies, except for EMS services.

Dispatch is capable of operating on the ADM talkgroup as needed.

5 EMS D1: EMS / Ambulance Services Primary
Dispatch Talkgroup; Operational primary
radio traffic handling for EMS / Ambulance

services operations.

5 EMSTAC: Operational primary radio traffic handling

for EMS / Ambulance service groups.

5 EMSADM: EMS / Ambulance Admin Non operational

secondary radio traffic, and for intraagency unit-to-unit meetings. ADM

talkgroups are generally for exclusive use of the agency, and are generally not

included in the programming lists for other agencies or Helena Fire units. Dispatch is

capable of operating on the ADM

talkgroup as needed.

5 EH TG: E. Helena patched Rptr. Talkgroup

Limited interop. talkgroup, permanentpatched to conventional site repeater.

5 SS TG: Sunset patch Rptr. Talkgroup Limited

interop. talkgroup, permanent-Patched to

conventional site repeater.

5 WC TG: Wolf Creek patch Rptr. Talkgroup Limited

interop. talkgroup, permanent-Patched to

conventional site repeater.

5 MP TG: Mac Pass patched Rptr. Talkgroup

Limited interop. talkgroup, permanent-Patched to conventional site repeater.

5 BM TG: Belmont patched Rptr. Talkgroup Limited

interop. talkgroup, permanent-patched to

conventional site repeater.

5 HB TG: Hogback patched Rptr. Talkgroup Limited

interop. talkgroup, permanent-patched to

conventional site repeater.

5 LEC TG: Helena LEC patched Rptr. Talkgroup

Limited interop. Talkgroup, permanent-patched to conventional site repeater.

5 INC1: Incident #1 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 2: Incident #2 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 3: Incident #3 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 4: Incident #4 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 5: Incident #5 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 CALERT: Interagency Call Alert Meeting Talkgroup

Non operational interagency meeting place talkgroup. When a unit pages another unit between different agencies, this is the default talkgroup rendezvous

point.

2. Conventional Channel Resources:

5 LC SAR: Search & Rescue operations simplex

Local talkaround operational radio traffic

For Search & Rescue teams

5 AG RP: Augusta Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 HJ RP: Hedges Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 SW RP: Stonewall Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 EH RP: E. Helena Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 WC RP: Wolf Creek Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 SS RP: Sunset Interop. Analog Rptr. Conventional

site interop. repeater permanent-patched

to trunked system talkgroup

5 BM RP: Belmont Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 MP RP: Mac Pass Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 HB RP: Hogback Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 MH RP1: Mt. Helena b/u Rptr. 1 Analog repeater for

back up operations

5 MH RP2: Mt. Helena b/u Rptr. 2 Analog repeater for

back up operations

6.1.2 Handling Everyday incidents

a) If an incident involves only a single responding individual or unit, the call will remain on the Dispatch (D1) talkgroup

b) If an incident or call involves only a single agency response, once the call responders have been acknowledged by Dispatch, the incident commander or fire unit in charge will move the call off the Dispatch (D1) talkgroup and onto one of their two TAC talkgroups. In the event both TAC talkgroups are already in use, the incident commander will need to determine a clear tactical talkgroup, and then advise Dispatch (D1) of the change.

6.1.3 Handling a major incident

- a) If an incident or call involves a multi-agency response, once the call responders have been acknowledged by Dispatch, incident activity will be immediately moved off the Dispatch (D1) talkgroup and onto 1 of 5 Incident/Command talkgroups (INC 1 – 5). Dispatch will both assign the incident talkgroup and identify the incident commander (IC).
- b) If a multi-agency response is an "everyday incident", applicable units will stay on the numbered incident talkgroup until they clear



the scene. If any units require additional information, they can switch momentarily to their Dispatch (D1) talkgroup to obtain the information. If a side-bar discussion is needed, applicable units can switch momentarily to their TAC1, 2 or ADM talkgroups.

- c) If a multi-agency response elevates to a "large scale" incident, the on-scene incident commander/s (IC) will be assigned to coordinate and/or stage the response. Responding units or groups will be assigned alternate talkgroups or conventional channel resources at the discretion of incident commander/s. Additional incident (INC 1 5) talkgroups may be assigned as needed by the IC to handle incident complexities. Dispatch is capable of monitoring any of the incident (INC 1- 5) talkgroups, and will communicate update information to the incident commanders via their incident/command talkgroup. Note that the incident commander is determined inherently in the process.
- d) To clear an Incident talkgroup, the last unit on scene to downgrade the incident will call their Dispatch (D1) talkgroup to release the incident (INC 1 – 5) talkgroup. Note that an incident may also be downgraded to single agency or single individual incident status, causing incident communications to revert back to a TAC1, 2 or Dispatch talkgroup. The incident commander is normally the last individual to clear a scene.

6.1.4 Encryption usage

The decision to use encryption depends primarily upon sensitivity of information content and the situation at hand. Encryption primarily blocks the public from monitoring personal, sensitive or potentially compromising information. Secondarily, encryption prevents interception of messages and critical decision-making processes at different agency levels. Thirdly, EMS / Ambulance service providers must handle personal health information as a matter of course, and therefore qualify for an independent encryption key. The county decided on the following five (5) level encryption key hierarchy:

| Agency Name | Common Key | TG's Usage |
|-------------------|------------|--------------------------------------------------|
| All Field Units | 1 | Dispatch, Admin, Shared/Common function, Patched |
| All Unit Leaders | 2 | OPS, TAC |
| All Command Units | 3 | Incident/Command, Drug Task Force, SWAT, Coroner |
| EMS | 4 | EMS only |
| Non Public Safety | 5 | Non Public Safety |

Since the trunked system is already P25 Astro Digital IMBE protocol, switching to encryption mode causes no degradation to audio quality or radio coverage. There is one caution for radios equipped with encryption: A field unit receiving a call from another encrypted radio yields no audio queue whether the call originated in clear or encrypted mode. As such, it is up to the receiving unit to look at their display for indication that the call was encrypted and to switch over to the appropriate mode.

6.1.5 Applicable Call Alert, Status Messaging, and Emergency Alarm & Call

a. Call Alert:

The primary purpose of call alert is to allow Dispatch or trunked radio units to contact each other (using aliases), regardless of which talkgroup they may be monitoring or affiliated with while operating on the trunked system.

Any intra-agency call alert notifications signify that both units are to meet on their assigned ADMIN talkgroup. Any inter-agency call alert is notification to both units to meet on the CALERT talkgroup.

b. Status Messaging:

Field unit radios send pre-defined status messages to the Dispatch console, which will appear on the operator activity logs. Dispatchers will still have to manually input/update status/message information into CAD for each incident. Most system subscriber radios include a status-messaging capability. However, only selected mobile units include a simplified one button status/message control head.

Typical status-message aliases:

- 1. Enroute
- 2. Arrived on Scene
- 3. Clear
- 4. Available

c. Emergency Alarm & Call

A user who generates an alarm will stay on the current talkgroup (tactical), and upon pushing the radio PTT, the initiating unit will take control of that talkgroup for 30 seconds. Fire agencies opted for audible alarm indication on their field units. All alarms must be acknowledged by any dispatch operator positions capable of selecting or monitoring the applicable field units or talkgroups.



7. East Helena Fire Department

7.1 New System Communications Hierarchy and Protocols

7.1.1 Day to Day Communications; Communicating with Dispatch

- I. Simple Call Description
 - 1. No Activity:
 - If there are no pertinent active calls or incidents, no active unit-to-unit meetings, all field units must stay on the primary Dispatch talkgroup (HFD D1). Monitoring of nonessential system activity is discouraged and prohibited.

2. Call Initiation Steps (Dispatch to Field)

- First Action: Dispatch initiates the call by sending out a page to applicable units and individuals.
- Second Action: Field units and individuals respond to and acknowledge the page verbally on their dispatch (D1) talkgroup directly to Dispatch.
- Third Action: Responding field units send a status-message to Dispatch that they are enroute the scene or incident.
- Fourth Action: Dispatch will enter into CAD the status activity and time for each responding unit.

3. Call Initiation Steps (Field to Dispatch)

- First Action: Field unit initiates the call verbally over the Dispatch (D1) talkgroup to Dispatch operator, identifying his alias unit ID.
- Second Action: Dispatch will verbally acknowledge the calling unit with their alias unit ID. If applicable, Dispatch will also advise the calling unit of any situation or incident in progress that would need to limit or delay the calling field unit from completing their request.
- Third Action: Field unit completes their request or message to Dispatch.

 Fourth Action: Dispatch acknowledges the field unit by repeating their alias unit ID, responds to their request or message and then completes the exchange with the time.

4. Dispatch Intermediate Communication Calls

- Dispatch can verbally send updated call or incident information directly to responding units over the chosen active response talkgroup, to any series of chosen response talkgroups using the console Multi-Select function, and/or send an informational alphanumeric page to equipped applicable units.
- Dispatch can manually patch non-trunked (conventional) users to an incident talkgroup if requested by the incident commander.
- II. <u>System-Related East Helena Fire Talkgroup names & Conventional Channel Resources</u>
 - 1. Trunked System Talkgroup Names:

5 RF D1: Fire Primary Dispatch 1; Monitored by all field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests are not to be made on the dispatch channel unless there are call alert or other safety issues involved.

5 RFTAC1, 5 RFTAC2, RFTAC3: Rural Fire Tactical;
Agency operational primary radio traffic handling, key agency working talkgroups

5 RF ADM: Rural Fire Admin; Non operational secondary radio traffic, and for intraagency unit-to-unit meetings. ADM talkgroups are generally for exclusive use of the agency, and are generally not included in the programming lists for other agencies, except for EMS services.

Dispatch is capable of operating on the ADM talkgroup as needed.

5 EH TG: E. Helena patched Rptr. Talkgroup Limited interop. talkgroup, permanent-patched to conventional site repeater.

5 SS TG: Sunset patch Rptr. Talkgroup Limited

interop. talkgroup, permanent-Patched to

conventional site repeater.

5 WC TG: Wolf Creek patch Rptr. Talkgroup Limited

interop. talkgroup, permanent-Patched to

conventional site repeater.

5 MP TG: Mac Pass patched Rptr. Talkgroup

> Limited interop. talkgroup, permanent-Patched to conventional site repeater.

5 BM TG: Belmont patched Rptr. Talkgroup Limited

interop. talkgroup, permanent-patched to

conventional site repeater.

5 HB TG: Hogback patched Rptr. Talkgroup Limited

interop. talkgroup, permanent-patched to

conventional site repeater.

5 LEC TG: Helena LEC patched Rptr. Talkgroup

> Limited interop. Talkgroup, permanentpatched to conventional site repeater.

5 INC1: Incident #1 (interagency/command) Inter-

> agency / multiple agency / command and control interop, operational Incident and

response talkgroup.

5 INC 2: Incident #2 (interagency/command) Inter-

> agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 3: Incident #3 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 4: Incident #4 (interagency/command) Inter-

> agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 5: Incident #5 (interagency/command) Inter-

> agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 CALERT: Interagency Call Alert Meeting Talkgroup

> Non operational interagency meeting place talkgroup. When a unit pages another unit between different agencies, this is the default talkgroup rendezvous

point.



2. Conventional Channel Resources:

5 LC SAR: Search & Rescue operations simplex

Local talkaround operational radio traffic

For Search & Rescue teams

5 AG RP: Augusta Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patch to trunked system

talkgroup

5 HJ RP: Hedges Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 SW RP: Stonewall Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 EH RP: E. Helena Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 WC RP: Wolf Creek Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 SS RP: Sunset Interop. Analog Rptr. Conventional

site interop. repeater permanent-patched

to trunked system talkgroup

5 BM RP: Belmont Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 MP RP: Mac Pass Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 HB RP: Hogback Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 MH RP1: Mt. Helena b/u Rptr. 1 Analog repeater for

back up operations

5 MH RP2: Mt. Helena b/u Rptr. 2 Analog repeater for

back up operations

7.1.2 Handling Everyday incidents

- a) If an incident involves only a single responding individual or unit, the call will remain on the Dispatch (D1) talkgroup
- b) If an incident or call involves only a single agency response, once the call responders have been acknowledged by Dispatch, the incident commander or fire unit in charge will move the call off the Dispatch (D1) talkgroup and onto one of their three TAC talkgroups. In the event all TAC talkgroups are already in use, the incident commander will need to determine a clear tactical talkgroup, and then advise Dispatch (D1) of the change.

7.1.3 Handling a major incident

- a) If an incident or call involves a multi-agency response, once the call responders have been acknowledged by Dispatch, incident activity will be immediately moved off the Dispatch (D1) talkgroup and onto 1 of 5 Incident/Command talkgroups (INC 1 – 5). Dispatch will both assign the incident talkgroup and identify the incident commander (IC).
- b) If a multi-agency response is an "everyday incident", applicable units will stay on the numbered incident talkgroup until they clear the scene. If any units require additional information, they can switch momentarily to their Dispatch (D1) talkgroup to obtain the information. If a side-bar discussion is needed, applicable units can switch momentarily to their TAC1, 2, 3 or ADM talkgroups.
- c) If a multi-agency response elevates to a "large scale" incident, the on-scene incident commander/s (IC) will be assigned to coordinate and/or stage the response. Responding units or groups will be assigned alternate talkgroups or conventional channel resources at the discretion of incident commander/s. Additional incident (INC 1 5) talkgroups may be assigned as needed by the IC to handle incident complexities. Dispatch is capable of monitoring any of the incident (INC 1- 5) talkgroups, and will communicate update information to the incident commanders via their incident/command talkgroup. Note that the incident commander is determined inherently in the process.
- d) To clear an Incident talkgroup, the last unit on scene to downgrade the incident will call their Dispatch (D1) talkgroup to release the

incident (INC 1-5) talkgroup. Note that an incident may also be downgraded to single agency or single individual incident status, causing incident communications to revert back to a TAC1, 2, 3 or Dispatch talkgroup. The incident commander is normally the last individual to clear a scene.

7.1.4 Encryption usage

The decision to use encryption depends primarily upon sensitivity of information content and the situation at hand. Encryption primarily blocks the public from monitoring personal, sensitive or potentially compromising information. Secondarily, encryption prevents interception of messages and critical decision-making processes at different agency levels. The county decided on the following five (5) level encryption key hierarchy:

| Agency Name | Common Key | TG's Usage_ |
|-------------------|------------|--------------------------------------------------|
| All Field Units | 1 | Dispatch, Admin, Shared/Common function, Patched |
| All Unit Leaders | 2 | OPS, TAC |
| All Command Units | 3 | Incident/Command, Drug Task Force, SWAT, Coroner |
| EMS | 4 | EMS only |
| Non Public Safety | 5 | Non Public Safety |

Since the trunked system is already P25 Astro Digital IMBE protocol, switching to encryption mode causes no degradation to audio quality or radio coverage. There is one caution for radios equipped with encryption: A field unit receiving a call from another encrypted radio yields no audio queue whether the call originated in clear or encrypted mode. As such, it is up to the receiving unit to look at their display for indication that the call was encrypted and to switch over to the appropriate mode.

7.1.5 Applicable Call Alert, Status Messaging, and Emergency Alarm & Call

a. Call Alert:

The primary purpose of call alert is to allow Dispatch or trunked radio units to contact each other (using aliases), regardless of which talkgroup they may be monitoring or affiliated with while operating on the trunked system.

Any intra-agency call alert notifications signify that both units are to meet on their assigned ADMIN talkgroup. Any inter-agency call alert is notification to both units to meet on the CALERT talkgroup.

b. Status Messaging:

Field unit radios send pre-defined status messages to the Dispatch console, which will appear on the operator activity logs. Dispatchers



will still have to manually input/update status/message information into CAD for each incident. Most system subscriber radios include a status-messaging capability. However, only selected mobile units include a simplified one button status/message control head.

Typical status-message aliases:

- •5. Enroute
- •6. Arrived on Scene
- •7. Clear
- •8. Available
- c. Emergency Alarm & Call

A user who generates an alarm will stay on the current talkgroup (tactical), and upon pushing the radio PTT, the initiating unit will take control of that talkgroup for 30 seconds. Fire agencies opted for audible alarm indication on their field units. All alarms must be acknowledged by any dispatch operator positions capable of selecting or monitoring the applicable field units or talkgroups.

8. East Helena Police Department

8.1 New Communications Hierarchy and Protocols

8.1.1 Day to Day Communications; Communicating with Dispatch

- I. Simple Call Description
 - 1. No Activity:
 - If there are no pertinent active calls or incidents, no active unit-to-unit meetings, all field units must stay on the primary Dispatch talkgroup (HP D1). Monitoring of non-essential system activity is discouraged and prohibited.

2. Call Initiation Steps (Dispatch to Field)

- First Action: Dispatch initiates the call verbally over the Dispatch (D1) talkgroup to expected responding units and individuals, utilizing their alias unit ID.
- Second Action: Responding field units acknowledge verbally with their alias unit ID, that they are enroute the scene or incident on the dispatch (D1) talkgroup directly to Dispatch.
- Third Action: Dispatch will enter into CAD the status activity and time for each responding unit.
 Dispatch can acknowledge completed data entry and time to the responding unit if requested.

3. Call Initiation Steps (Field to Dispatch)

- First Action: Field unit initiates the call verbally over the Dispatch (D1) talkgroup to Dispatch operator, identifying his alias unit ID.
- Second Action: Dispatch will verbally acknowledge the calling unit with their alias unit ID. If applicable, Dispatch will also advise the calling unit of any situation or incident in progress that would need to limit or delay the calling field unit from completing their request.
- Third Action: Field unit completes their request or message to Dispatch.
- Fourth Action: Dispatch acknowledges the field unit by repeating their alias unit ID, responds to their request or message and then completes the exchange with the time.



4. <u>Dispatch Intermediate Communication Calls</u>

- Dispatch can verbally send updated call or incident information directly to responding units over the chosen active response talkgroup, to any series of chosen response talkgroups using the console Multi-Select function, and/or send an informational alphanumeric page to equipped applicable units.
- Dispatch can manually patch non-trunked (conventional) users to an incident talkgroup if requested by the incident commander.

II. System-Related E. Helena PD Talkgroup names & Conventional Channel Resources

1. Trunked System Talkgroup Names:

E. Helena Police Dispatch 1 Monitored by 5 EHP D1: all field units when there is no activity. Not used for radio traffic handling or as a

working talkgroup. Unit-to-unit meeting requests are not to be made on the dispatch channel unless there are call alert or other safety issues involved.

5 EHPOPS: E. Helena PD Operations; Agency operational primary radio traffic

handling, a key agency working talkgroup 5 EHPADM: E. Helena PD Admin; Non operational

> secondary radio traffic, and for intraagency unit-to-unit meetings. ADM

talkgroups are generally for exclusive use of the agency, and are generally not included in the programming lists for other

agencies. Dispatch is capable of operating on the ADM talkgroup as

needed.

5 LAW TG: Law Enforcement Shared + Explosives

> Disposal Team; Operational secondary shared talkgroup for inter-agency law

radio traffic.

5 INC1: Incident #1 (interagency/command) Inter-

> agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 2: Incident #2 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 3: Incident #3 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 4: Incident #4 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 5: Incident #5 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 CALERT: Interagency Call Alert Meeting Talkgroup

Non operational interagency meeting place talkgroup. When a unit pages another unit between different agencies, this is the default talkgroup rendezvous

point.

Conventional Channel Resources:

5 LE OPS: Helena PD & SO Operations simplex

Local talkaround operational radio traffic

for Helena PD and SO units

5 MH RP3: Mt. Helena Shared Law Enforcement

Repeater.

8.1.2 Handling Everyday incidents

a) If an incident involves only a single responding individual or unit, the call will remain on the Dispatch (D1) talkgroup

b) If an incident or call involves only a single agency response, once the call responders have been acknowledged by Dispatch, the incident commander or officer in charge will move the call off the Dispatch (D1) talkgroup and onto their OPS talkgroup. In the event the OPS talkgroup is already in use, the incident commander will need to determine a clear operations talkgroup, and then advise Dispatch (D1) of the change.



8.1.3 Handling a major incident

- a) If an incident or call involves a multi-agency response, once the call responders have been acknowledged by Dispatch, incident activity will be immediately moved off the Dispatch (D1) talkgroup and onto 1 of 5 Incident/Command talkgroups (INC 1 – 5). Dispatch will both assign the incident talkgroup and identify the incident commander (IC).
- b) If a multi-agency response is an "everyday incident", applicable units will stay on the numbered incident talkgroup until they clear the scene. If any units require additional information, they can switch momentarily to their Dispatch (D1) talkgroup to obtain the information. If a side-bar discussion is needed, applicable units can switch momentarily to their OPS or ADM talkgroups.
- c) If a multi-agency response elevates to a "large scale" incident, the on-scene incident commander/s (IC) will be assigned to coordinate and/or stage the response. Responding units or groups will be assigned alternate talkgroups or conventional channel resources at the discretion of incident commander/s. Additional incident (INC 1 5) talkgroups may be assigned as needed by the IC to handle incident complexities. Dispatch is capable of monitoring any of the incident (INC 1- 5) talkgroups, and will communicate update information to the incident commanders via their incident/command talkgroup. Note that the incident commander is determined inherently in the process.
- d) To clear an Incident talkgroup, the last unit on scene to downgrade the incident will call their Dispatch (D1) talkgroup to release the incident (INC 1 – 5) talkgroup. Note that an incident may also be downgraded to single agency or single individual incident status, causing incident communications to revert back to an OPS or Dispatch talkgroup. The incident commander is normally the last individual to clear a scene.

8.1.4 Encryption usage

The decision to use encryption depends primarily upon sensitivity of information content and the situation at hand. Encryption primarily blocks the public from monitoring personal, sensitive or potentially compromising information. Secondarily, encryption prevents interception of messages

and critical decision-making processes at different agency levels. The county decided on the following five (5) level encryption key hierarchy:

| Agency Name | Common Key | TG's Usage_ |
|-------------------|------------|--------------------------------------------------|
| All Field Units | 1 | Dispatch, Admin, Shared/Common function, Patched |
| All Unit Leaders | 2 | OPS, TAC |
| All Command Units | 3 | Incident/Command, Drug Task Force, SWAT, Coroner |
| EMS | 4 | EMS only |
| Non Public Safety | 5 | Non Public Safety |

Since the trunked system is already P25 Astro Digital IMBE protocol, switching to encryption mode causes no degradation to audio quality or radio coverage. There is one caution for radios equipped with encryption: A field unit receiving a call from another encrypted radio yields no audio queue whether the call originated in clear or encrypted mode. As such, it is up to the receiving unit to look at their display for indication that the call was encrypted or not, and to switch over to the appropriate mode.

8.1.5 Applicable Call Alert, Status Messaging, and Emergency Alarm & Call

a. Call Alert:

The primary purpose of call alert is to allow Dispatch or trunked radio units to contact each other (using aliases), regardless of which talkgroup they may be monitoring or affiliated with while operating on the trunked system.

Any intra-agency call alert notifications signify that both units are to meet on their assigned ADMIN talkgroup. Any inter-agency call alert is notification to both units to meet on the CALERT talkgroup.

b. Status Messaging:

Field unit radios send pre-defined status messages to the Dispatch console, which will appear on the operator activity logs. Dispatchers will still have to manually input/update status/message information into CAD for each incident. Most system subscriber radios include a status-messaging capability. However, only selected mobile units include a simplified one button status/message control head.

Typical status-message aliases:

- 9. Enroute
 10. Arrived on Scene
 11. Clear
 12. Available
- c. Emergency Alarm & Call



Due to the potential for safety issues in the field, PD units opted for silent alarm, meaning that the initiating radio makes no visible or audible indication that an alarm has occurred. A user who generates an alarm will stay on the current talkgroup (tactical), and upon pushing the radio PTT, the initiating unit will take control of that talkgroup for 30 seconds. All alarms must be acknowledged by any dispatch operator positions capable of selecting or monitoring the applicable field units or talkgroups.

9. Rural Fire Departments

9.1 New System Communications Hierarchy and Protocols

9.1.1 Day to Day Communications; Communicating with Dispatch

- I. Simple Call Description
 - 1. No Activity:
 - If there are no pertinent active calls or incidents, no active unit-to-unit meetings, all field units must stay on the primary Dispatch talkgroup (HFD D1). Monitoring of non-essential system activity is discouraged and prohibited.

2. Call Initiation Steps (Dispatch to Field)

- First Action: Dispatch initiates the call by sending out a page to applicable units and individuals.
- Second Action: Field units and individuals respond to and acknowledge the page verbally on their dispatch (D1) talkgroup directly to Dispatch.
- Third Action: Responding field units send a statusmessage to Dispatch that they are enroute the scene or incident.
- Fourth Action: Dispatch will enter into CAD the status activity and time for each responding unit.

3. Call Initiation Steps (Field to Dispatch)

- First Action: Field unit initiates the call verbally over the Dispatch (D1) talkgroup to Dispatch operator, identifying his alias unit ID.
- Second Action: Dispatch will verbally acknowledge the calling unit with their alias unit ID. If applicable, Dispatch will also advise the calling unit of any situation or incident in progress that would need to limit or delay the calling field unit from completing their request.
- Third Action: Field unit completes their request or message to Dispatch.
- Fourth Action: Dispatch acknowledges the field unit by repeating their alias unit ID, responds to their request or message and then completes the exchange with the time.



4. <u>Dispatch Intermediate Communication Calls</u>

- Dispatch can verbally send updated call or incident information directly to responding units over the chosen active response talkgroup, to any series of chosen response talkgroups using the console Multi-Select function, and/or send an informational alphanumeric page to equipped applicable units.
- Dispatch can manually patch non-trunked (conventional) users to an incident talkgroup if requested by the incident commander.

II. <u>System-Related Rural Fire Talkgroup names & Conventional</u> Channel Resources

1. Trunked System Talkgroup Names:

5 RF D1: Rural Fire Primary Dispatch 1; Monitored by all field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests are not to be made on the dispatch channel unless there are call

alert or other safety issues involved.

5 RFTAC1, 5 RFTAC2, RFTAC3: Rural Fire Tactical;

Agency operational primary radio traffic handling, key agency working talkgroups

5 RF ADM: Rural Fire Admin; Non operational

secondary radio traffic, and for intraagency unit-to-unit meetings. ADM

talkgroups are generally for exclusive use of the agency, and are generally not included in the programming lists for other

agencies, except for EMS services.

Dispatch is capable of operating on the

ADM talkgroup as needed.

5 EH TG: E. Helena patched Rptr. Talkgroup

Limited interop. talkgroup, permanent-patched to conventional site repeater.

5 SS TG: Sunset patch Rptr. Talkgroup Limited

interop. talkgroup, permanent-Patched to

conventional site repeater.

5 WC TG: Wolf Creek patch Rptr. Talkgroup Limited

interop. talkgroup, permanent-Patched to

conventional site repeater.

5 MP TG: Mac Pass patched Rptr. Talkgroup Limited interop. talkgroup, permanent-Patched to conventional site repeater. Belmont patched Rptr. Talkgroup Limited 5 BM TG: interop. talkgroup, permanent-patched to conventional site repeater. 5 HB TG: Hogback patched Rptr. Talkgroup Limited interop. talkgroup, permanent-patched to conventional site repeater. Helena LEC patched Rptr. Talkgroup 5 LEC TG: Limited interop. Talkgroup, permanentpatched to conventional site repeater. 5 INC1: Incident #1 (interagency/command) Interagency / multiple agency / command and control interop, operational Incident and response talkgroup. 5 INC 2: Incident #2 (interagency/command) Interagency / multiple agency / command and control interop. operational Incident and response talkgroup. 5 INC 3: Incident #3 (interagency/command) Interagency / multiple agency / command and control interop. operational Incident and response talkgroup. 5 INC 4: Incident #4 (interagency/command)Interagency / multiple agency / command and control interop, operational Incident and response talkgroup. 5 INC 5: Incident #5 (interagency/command)Interagency / multiple agency / command and control interop. operational Incident and response talkgroup. Interagency Call Alert Meeting Talkgroup 5 CALERT: Non operational interagency meeting place talkgroup. When a unit pages another unit between different agencies, this is the default talkgroup rendezvous

point.

2. Conventional Channel Resources:

5 LC SAR: Search & Rescue operations simplex

Local talkaround operational radio traffic

For Search & Rescue teams

5 AG RP: Augusta Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 HJ RP: Hedges Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 SW RP: Stonewall Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 EH RP: E. Helena Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 WC RP: Wolf Creek Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 SS RP: Sunset Interop. Analog Rptr. Conventional

site interop. repeater permanent-patched

to trunked system talkgroup

5 BM RP: Belmont Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 MP RP: Mac Pass Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 HB RP: Hogback Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 MH RP1: Mt. Helena b/u Rptr. 1 Analog repeater for

back up operations

5 MH RP2: Mt. Helena b/u Rptr. 2 Analog repeater for

back up operations

9.1.2 Handling Everyday incidents

- a) If an incident involves only a single responding individual or unit, the call will remain on the Dispatch (D1) talkgroup
- b) If an incident or call involves only a single agency response, once the call responders have been acknowledged by Dispatch, the incident commander or fire unit in charge will move the call off the Dispatch (D1) talkgroup and onto one of their three TAC talkgroups. In the event all TAC talkgroups are already in use, the incident commander will need to determine a clear tactical talkgroup, and then advise Dispatch (D1) of the change.

9.1.3 Handling a major incident

- a) If an incident or call involves a multi-agency response, once the call responders have been acknowledged by Dispatch, incident activity will be immediately moved off the Dispatch (D1) talkgroup and onto 1 of 5 Incident/Command talkgroups (INC 1 5). Dispatch will both assign the incident talkgroup and identify the incident commander (IC).
- b) If a multi-agency response is an "everyday incident", applicable units will stay on the numbered incident talkgroup until they clear the scene. If any units require additional information, they can switch momentarily to their Dispatch (D1) talkgroup to obtain the information. If a side-bar discussion is needed, applicable units can switch momentarily to their TAC1, 2, 3 or ADM talkgroups.
- c) If a multi-agency response elevates to a "large scale" incident, the onscene incident commander/s (IC) will be assigned to coordinate and/or stage the response. Responding units or groups will be assigned alternate talkgroups or conventional channel resources at the discretion of incident commander/s. Additional incident (INC 1 5) talkgroups may be assigned as needed by the IC to handle incident complexities. Dispatch is capable of monitoring any of the incident (INC 1- 5) talkgroups, and will communicate update information to the incident commanders via their incident/command talkgroup. Note that the incident commander is determined inherently in the process.
- d) To clear an Incident talkgroup, the last unit on scene to downgrade the incident will call their Dispatch (D1) talkgroup to release the incident (INC 1 5) talkgroup. Note that an incident may also be downgraded to single agency or single individual incident status, causing incident



communications to revert back to a TAC1, 2, 3 or Dispatch talkgroup. The incident commander is normally the last individual to clear a scene.

9.1.4 Encryption usage

The decision to use encryption depends primarily upon sensitivity of information content and the situation at hand. Encryption primarily blocks the public from monitoring personal, sensitive or potentially compromising information. Secondarily, encryption prevents interception of messages and critical decision-making processes at different agency levels. The county decided on the following five (5) level encryption key hierarchy:

| Agency Name | Common Key | TG's Usage |
|-------------------|------------|--------------------------------------------------|
| All Field Units | 1 | Dispatch, Admin, Shared/Common function, Patched |
| All Unit Leaders | 2 | OPS, TAC |
| All Command Units | 3 | Incident/Command, Drug Task Force, SWAT, Coroner |
| EMS | 4 | EMS only |
| Non Public Safety | 5 | Non Public Safety |

Since the trunked system is already P25 Astro Digital IMBE protocol, switching to encryption mode causes no degradation to audio quality or radio coverage. There is one caution for radios equipped with encryption: A field unit receiving a call from another encrypted radio yields no audio queue whether the call originated in clear or encrypted mode. As such, it is up to the receiving unit to look at their display for indication that the call was encrypted and to switch over to the appropriate mode.

9.1.5 Applicable Call Alert, Status Messaging, and Emergency Alarm & Call

a. Call Alert:

The primary purpose of call alert is to allow Dispatch or trunked radio units to contact each other (using aliases), regardless of which talkgroup they may be monitoring or affiliated with while operating on the trunked system.

Any intra-agency call alert notifications signify that both units are to meet on their assigned ADMIN talkgroup. Any inter-agency call alert is notification to both units to meet on the CALERT talkgroup.

a)b. Status Messaging:

Field unit radios send pre-defined status messages to the Dispatch console, which will appear on the operator activity logs. Dispatchers will still have to manually input/update status/message information into CAD for each incident. Most system subscriber radios include a status-messaging capability. However, only selected mobile units include a simplified one button status/message control head.

Typical status-message aliases:

- •13. Enroute
- •14. Arrived on Scene
- •15. Clear
- •16. Available

b)c. Emergency Alarm & Call

A user who generates an alarm will stay on the current talkgroup (tactical), and upon pushing the radio PTT, the initiating unit will take control of that talkgroup for 30 seconds. Fire agencies opted for audible alarm indication on their field units. All alarms must be acknowledged by any dispatch operator positions capable of selecting or monitoring the applicable field units or talkgroups.



10. City and County Public Works

10.1 New System Communications Hierarchy and Protocols

10.1.1 Day to Day Communications; Communicating with Dispatch

- I. Simple Call Description
 - 1. No Activity:
 - If there are no pertinent active calls or incidents, no active unit-to-unit meetings, all field units must stay on the primary Dispatch talkgroup (HFD D1). Monitoring of non-essential system activity is discouraged and prohibited.

1. Call Initiation Steps (Dispatch to Field)

- First Action: Dispatch initiates the call verbally over the Dispatch (D1) talkgroup to expected responding units and individuals, utilizing their alias unit ID.
- Second Action: Responding field units acknowledge verbally with their alias unit ID, that they are enroute the scene or incident on the dispatch (D1) talkgroup directly to Dispatch.
- Third Action: Dispatch will enter into CAD the status activity and time for each responding unit.
 Dispatch can acknowledge completed data entry and time to the responding unit if requested.

2. Call Initiation Steps (Field to Dispatch)

- First Action: Field unit initiates the call verbally over the Dispatch (D1) talkgroup to Dispatch operator, identifying his alias unit ID.
- Second Action: Dispatch will verbally acknowledge the calling unit with their alias unit ID. If applicable, Dispatch will also advise the calling unit of any situation or incident in progress that would need to limit or delay the calling field unit from completing their request.
- Third Action: Field unit completes their request or message to Dispatch.
- Fourth Action: Dispatch acknowledges the field unit by repeating their alias unit ID, responds to

their request or message and then completes the exchange with the time.

3. <u>Dispatch Intermediate Communication Calls</u>

- Dispatch can verbally send updated call or incident information directly to responding units over the chosen active response talkgroup, to any series of chosen response talkgroups using the console Multi-Select function, and/or send an informational alphanumeric page to equipped applicable units.
- Dispatch can manually patch non-trunked (conventional) users to an incident talkgroup if requested by the incident commander.

II. <u>B. System-Related Public Works Talkgroup names &</u> Conventional Channel Resources

1. Trunked System Talkgroup Names:

5 PW D1: All Public Works Primary Dispatch 1;
Monitored by all field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests are not to be made on the dispatch channel unless there are call alert or other safety issues involved.

5 CPWOP: City Public Works Operations; Agency operational primary radio traffic handling, key City PW working talkgroup

5 LCPWOP: Lewis & Clark County Public Works
Operations; Agency operational primary
radio traffic handling, key County PW
working talkgroup

5 CPWADM: City Public Works Admin; Non operational secondary radio traffic, and for intraagency unit-to-unit meetings. ADM talkgroups are generally for exclusive use of the agency, and are generally not included in the programming lists for other agencies, except for EMS services.

Dispatch is capable of operating on the

ADM talkgroup as needed.

5 LCPWAD: Lewis & Clark County Public Works
Admin; Non operational secondary radio
traffic, and for intra-agency unit-to-unit
meetings, ADM talkgroups are generally
for exclusive use of the agency, and are
generally not included in the programming
lists for other agencies, except for EMS
services. Dispatch is capable of operating
on the ADM talkgroup as needed.
5 EH TG: E. Helena patched Rptr.
Talkgroup Limited interop. talkgroup,
permanent-patched to conventional site
repeater. For L&C Co. PW only.

5 SS TG: Sunset patch Rptr. Talkgroup Limited interop. talkgroup, permanent-Patched to conventional site repeater.

5 WC TG: Wolf Creek patch Rptr. Talkgroup Limited interop. talkgroup, permanent-Patched to conventional site repeater. For L&C Co. PW only.

5 MP TG: Mac Pass patched Rptr. Talkgroup Limited interop. talkgroup, permanent-Patched to conventional site repeater.

5 BM TG: Belmont patched Rptr. Talkgroup Limited interop. talkgroup, permanent-patched to conventional site repeater.

5 HB TG: Hogback patched Rptr. Talkgroup Limited interop. talkgroup, permanent-patched to conventional site repeater. For L&C Co. PW only.

5 LEC TG: Helena LEC patched Rptr. Talkgroup Limited interop. Talkgroup, permanentpatched to conventional site repeater. For L&C Co. PW only.

5 INC1: Incident #1 (interagency/command) Interagency / multiple agency / command and control interop. operational Incident and response talkgroup.

5 INC 2: Incident #2 (interagency/command) Interagency / multiple agency / command and control interop. operational Incident and response talkgroup.

5 INC 3: Incident #3 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 4: Incident #4 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 5: Incident #5 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 CALERT: Interagency Call Alert Meeting Talkgroup

Non operational interagency meeting place talkgroup. When a unit pages another unit between different agencies, this is the default talkgroup rendezvous

point.

2. Conventional Channel Resources:

5 CPWTA: City Public Works Talkaround, P25 or

analog; Simplex local talkaround operational radio traffic for City Public

Works

5 LCPWTA: Lewis & Clark County Public Works

Talkaround, P25 or analog; Simplex local talkaround operational radio traffic for

L&C Co. Public Works

5 LC SAR: Search & Rescue operations simplex

Local talkaround operational radio traffic

For Search & Rescue teams

5 AG RP: Augusta Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup. For L&C Co. PW only.

5 HJ RP: Hedges Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup. For L&C Co. PW only.

5 SW RP: Stonewall Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup. For L&C Co. PW only.

5 EH RP: E. Helena Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup. For L&C Co. PW only.

5 WC RP: Wolf Creek Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup. For L&C Co. PW only.

5 SS RP: Sunset Interop. Analog Rptr. Conventional

site interop. repeater permanent-patched to trunked system talkgroup. For L&C Co.

PW only.

5 BM RP: Belmont Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup. For L&C Co. PW only.

5 MP RP: Mac Pass Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup. For L&C Co. PW only.

5 HB RP: Hogback Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup. For L&C Co. PW only.

5 MH RP1: Mt. Helena b/u Rptr. 1 Analog repeater for

back up operations. For L&C Co. PW

only.

5 MH RP2: Mt. Helena b/u Rptr. 2 Analog repeater for

back up operations. For L&C Co. PW

only.

5 MH RP3: Mt. Helena b/u shared LE Rptr. For L&C

Co. PW only.

10.1.2 Handling Everyday incidents

- a) If an incident involves only a single responding individual or unit, the call will remain on the Dispatch (D1) talkgroup
- b) If an incident or call involves only a single agency response, once the call responders have been acknowledged by Dispatch, the incident commander or unit in charge will move the call off the Dispatch (D1) talkgroup and onto one of their respective Operations talkgroup. In the event the Operations talkgroup is already in use, the incident

commander or unit in charge will need to determine a clear operations talkgroup, and then advise Dispatch (D1) of the change.

10.1.3 Handling a major incident

- a) If an incident or call involves a multi-agency response, once the call responders have been acknowledged by Dispatch, incident activity will be immediately moved off the Dispatch (D1) talkgroup and onto 1 of 5 Incident/Command talkgroups (INC 1 5). Dispatch will both assign the incident talkgroup and identify the incident commander (IC).
- b) If a multi-agency response is an "everyday incident", applicable units will stay on the numbered incident talkgroup until they clear the scene. If any units require additional information, they can switch momentarily to their Dispatch (D1) talkgroup to obtain the information. If a side-bar discussion is needed, applicable units can switch momentarily to their respective Operation or ADM talkgroup.
- c) If a multi-agency response elevates to a "large scale" incident, the onscene incident commander/s (IC) will be assigned to coordinate and/or stage the response. Responding units or groups will be assigned alternate talkgroups or conventional channel resources at the discretion of incident commander/s. Additional incident (INC 1 5) talkgroups may be assigned as needed by the IC to handle incident complexities. Dispatch is capable of monitoring any of the incident (INC 1- 5) talkgroups, and will communicate update information to the incident commanders via their incident/command talkgroup. Note that the incident commander is determined inherently in the process.
- d) To clear an Incident talkgroup, the last unit on scene to downgrade the incident will call their Dispatch (D1) talkgroup to release the incident (INC 1 5) talkgroup. Note that an incident may also be downgraded to single agency or single individual incident status, causing incident communications to revert back to an Operation or Dispatch talkgroup. The incident commander is normally the last individual to clear a scene.

10.1.4 Encryption usage

Both City and County Public Works agencies operate in clear digital or analog mode only. No PW units include encryption at this juncture.



10.1.5 Applicable Call Alert, Status Messaging, and Emergency Alarm & Call

a. Call Alert:

The primary purpose of call alert is to allow Dispatch or trunked radio units to contact each other (using aliases), regardless of which talkgroup they may be monitoring or affiliated with while operating on the trunked system.

Any intra-agency call alert notifications signify that both units are to meet on their assigned ADMIN talkgroup. Any inter-agency call alert is notification to both units to meet on the CALERT talkgroup.

e)d. Status Messaging:

Field unit radios send pre-defined status messages to the Dispatch console, which will appear on the operator activity logs. Dispatchers will still have to manually input/update status/message information into CAD for each incident. Most system subscriber radios include a status-messaging capability. However, only selected mobile units include a simplified one button status/message control head.

Typical status-message aliases:

- •17. Enroute
- •18. Arrived on Scene
- •19. Clear
- •20. Available

d)e. Emergency Alarm & Call

A user who generates an alarm will stay on the current talkgroup (tactical), and upon pushing the radio PTT, the initiating unit will take control of that talkgroup for 30 seconds. Public Works agencies opted for audible alarm indication on their field units. All alarms must be acknowledged by any dispatch operator positions capable of selecting or monitoring the applicable field units or talkgroups.

11. All EMS Ambulance Services

11.1 New System Communications Hierarchy and Protocols

11.1.1 Day to Day Communications; Communicating with Dispatch

- I. Simple Call Description
 - 1. No Activity:
 - If there are no pertinent active calls or incidents, no active unit-to-unit meetings, all field units must stay on the primary Dispatch talkgroup (EMS D1). Monitoring of non-essential system activity is discouraged and prohibited.

2. Call Initiation Steps (Dispatch to Field)

- First Action: Dispatch initiates the call verbally over the Dispatch (D1) talkgroup to expected responding units and individuals, utilizing their alias unit ID.
- Second Action: Responding field units acknowledge verbally with their alias unit ID, that they are enroute the scene or incident on the dispatch (D1) talkgroup directly to Dispatch.
- Third Action: Dispatch will enter into CAD the status activity and time for each responding unit.
 Dispatch can acknowledge completed data entry and time to the responding unit if requested.

3. Call Initiation Steps (Field to Dispatch)

- First Action: Field unit initiates the call verbally over the Dispatch (D1) talkgroup to Dispatch operator, identifying his alias unit ID.
- Second Action: Dispatch will verbally acknowledge the calling unit with their alias unit ID. If applicable, Dispatch will also advise the calling unit of any situation or incident in progress that would need to limit or delay the calling field unit from completing their request.
- Third Action: Field unit completes their request or message to Dispatch.
- Fourth Action: Dispatch acknowledges the field unit by repeating their alias unit ID, responds to



their request or message and then completes the exchange with the time.

4. <u>Dispatch Intermediate Communication Calls</u>

- Dispatch can verbally send updated call or incident information directly to responding units over the chosen active response talkgroup, to any series of chosen response talkgroups using the console Multi-Select function, and/or send an informational alphanumeric page to equipped applicable units.
- Dispatch can manually patch non-trunked (conventional) users to an incident talkgroup if requested by the incident commander.

II. <u>B. System-Related EMS Talkgroup names & Conventional</u> Channel Resources

1. Trunked System Talkgroup Names:

5 EMS D1: Emerg.Med.Svcs. Ambulance Primary
Dispatch 1; Monitored by all field units
when there is no activity. Not used for
radio traffic handling or as a working
talkgroup. Unit-to-unit meeting requests
are not to be made on the dispatch
channel unless there are call alert or other

safety issues involved.

5 EMSTAC: Emerg.Med.Svcs. Ambulance Tactical; Ambulances tactical primary radio traffic handling, key ambulances working

talkgroup
5 EMSADM: Emerg.Med.Svcs. Ambulance Admin; Non operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talkgroups are generally for exclusive use

of the agency, and are generally not included in the programming lists for other agencies. Dispatch is capable of

operating on the EMS ADM talkgroup as

needed.

5 EH TG: E. Helena patched Rptr. Talkgroup

Limited interop. talkgroup, permanent-patched conventional site repeater.

5 SS TG: Sunset patch Rptr. Talkgroup Limited

interop. talkgroup, permanent-Patched to

conventional site repeater.

5 WC TG: Wolf Creek patch Rptr. Talkgroup Limited

interop. talkgroup, permanent-Patched to

conventional site repeater.

5 MP TG: Mac Pass patched Rptr. Talkgroup

> Limited interop. talkgroup, permanent-Patched to conventional site repeater.

Belmont patched Rptr. Talkgroup Limited 5 BM TG:

interop. talkgroup, permanent-patched to

conventional site repeater.

Hogback patched Rptr. Talkgroup Limited 5 HB TG:

interop. talkgroup, permanent-patched to

conventional site repeater.

5 LEC TG: Helena LEC patched Rptr. Talkgroup

> Limited interop. Talkgroup, permanentpatched to conventional site repeater.

Incident #1 (interagency/command) Inter-5 INC1:

> agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 2: Incident #2 (interagency/command) Inter-

> agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 3: Incident #3 (interagency/command) Inter-

> agency / multiple agency / command and control interop, operational Incident and

response talkgroup.

Incident #4 (interagency/command) Inter-5 INC 4:

> agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

Incident #5 (interagency/command) Inter-5 INC 5:

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 CALERT: Interagency Call Alert Meeting Talkgroup

> Non operational interagency meeting place talkgroup. When a unit pages another unit between different agencies, this is the default talkgroup rendezvous

point.

2. Conventional Channel Resources:

5 LC SAR: Search & Rescue operations simplex

Local talkaround operational radio traffic

For Search & Rescue teams

5 AG RP: Augusta Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 HJ RP: Hedges Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 SW RP: Stonewall Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 EH RP: E. Helena Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 WC RP: Wolf Creek Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 SS RP: Sunset Interop. Analog Rptr. Conventional

site interop. repeater permanent-patched

to trunked system talkgroup

5 BM RP: Belmont Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 MP RP: Mac Pass Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 HB RP: Hogback Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 MH RP1: Mt. Helena b/u Rptr. 1 Analog repeater for

back up operations

5 MH RP2: Mt. Helena b/u Rptr. 2 Analog repeater for

back up operations

5 MH RP3: Mt. Helena b/u Rptr. 3 Analog Law

Enforcement shared b/u Rptr.

11.1.2 Handling Everyday incidents

a) If an incident involves only a single responding individual or unit, the call will remain on the Dispatch (D1) talkgroup

b) If an incident or call involves only a single agency response, once the call responders have been acknowledged by Dispatch, the incident commander or unit in charge will move the call off the Dispatch (D1) talkgroup and onto the TAC talkgroup. In the event the TAC talkgroup is already in use, the incident commander will need to determine a clear tactical talkgroup, and then advise Dispatch (D1) of the change.

11.1.3 Handling a major incident

- a) If an incident or call involves a multi-agency response, once the call responders have been acknowledged by Dispatch, incident activity will be immediately moved off the Dispatch (D1) talkgroup and onto 1 of 5 Incident/Command talkgroups (INC 1 – 5). Dispatch will both assign the incident talkgroup and identify the incident commander (IC).
- b) If a multi-agency response is an "everyday incident", applicable units will stay on the numbered incident talkgroup until they clear the scene. If any units require additional information, they can switch momentarily to their Dispatch (D1) talkgroup to obtain the information. If a side-bar discussion is needed, applicable units can switch momentarily to their TAC or ADM talkgroup.
- c) If a multi-agency response elevates to a "large scale" incident, the on-scene incident commander/s (IC) will be assigned to coordinate and/or stage the response. Responding units or groups will be assigned alternate talkgroups or conventional channel resources at the discretion of incident commander/s. Additional incident (INC 1 5) talkgroups may be assigned as needed by the IC to handle incident complexities. Dispatch is capable of monitoring any of the incident (INC 1- 5) talkgroups, and will communicate update information to the incident commanders via their incident/command

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talkgroup. Note that the incident commander is determined inherently in the process.

d) To clear an Incident talkgroup, the last unit on scene to downgrade the incident will call their Dispatch (D1) talkgroup to release the incident (INC 1 – 5) talkgroup. Note that an incident may also be downgraded to single agency or single individual incident status, causing incident communications to revert back to a TAC or Dispatch talkgroup. The incident commander is normally the last individual to clear a scene.

11.1.4 Encryption usage

The decision to use encryption depends primarily upon sensitivity of information content and the situation at hand. Encryption primarily blocks the public from monitoring personal, sensitive or potentially compromising information. Secondarily, encryption prevents interception of messages and critical decision-making processes at different agency levels. The county decided on the following five (5) level encryption key hierarchy:

| Agency Name | Common Key | TG's Usage |
|-------------------|------------|--------------------------------------------------|
| All Field Units | 1 | Dispatch, Admin, Shared/Common function, Patched |
| All Unit Leaders | 2 | OPS, TAC |
| All Command Units | 3 | Incident/Command, Drug Task Force, SWAT, Coroner |
| EMS | 4 | EMS only |
| Non Public Safety | 5 | Non Public Safety |

The EMS Ambulance agency group is afforded an independent encryption code because of legal requirements regarding information privacy rights. Since the trunked system is already P25 Astro Digital IMBE protocol, switching to encryption mode causes no degradation to audio quality or radio coverage. There is one caution for radios equipped with encryption: A field unit receiving a call from another encrypted radio yields no audio queue whether the call originated in clear or encrypted mode. As such, it is up to the receiving unit to look at their display for indication that the call was encrypted and to switch over to the appropriate mode.

11.1.5 Applicable Call Alert, Status Messaging, and Emergency Alarm & Call a) Call Alert:

The primary purpose of call alert is to allow Dispatch or trunked radio units to contact each other (using aliases), regardless of which talkgroup they may be monitoring or affiliated with while operating on the trunked system.

Any intra-agency call alert notifications signify that both units are to meet on their assigned ADMIN talkgroup. Any inter-agency call alert is notification to both units to meet on the CALERT talkgroup.

b) Status Messaging:

Field unit radios send pre-defined status messages to the Dispatch console, which will appear on the operator activity logs. Dispatchers will still have to manually input/update status/message information into CAD for each incident. Most system subscriber radios include a status-messaging capability. However, only selected mobile units include a simplified one button status/message control head. Typical status-message aliases:

- 1. Enroute
- 2. Arrived on Scene
- 3. Clear
- 4. Available

c) Emergency Alarm & Call

A user who generates an alarm will stay on the current talkgroup (tactical), and upon pushing the radio PTT, the initiating unit will take control of that talkgroup for 30 seconds. EMS ambulance agencies opted for audible alarm indication on their field units. All alarms must be acknowledged by any dispatch operator positions capable of selecting or monitoring the applicable field units or talkgroups.

12. Montana Highway Patrol

12.1 New System Communications Hierarchy and Protocols

12.1.1 Day to Day Communications; Communicating with Dispatch

- I. Simple Call Description
 - 1. No Activity:
 - If there are no pertinent active calls or incidents, no active unit-to-unit meetings, all field units must stay on the primary Dispatch talkgroup (SO D1). Monitoring of nonessential system activity is discouraged and prohibited.

2. Call Initiation Steps (Dispatch to Field)

- First Action: Dispatch initiates the call verbally over the Dispatch (D1) talkgroup to expected responding units and individuals, utilizing their alias unit ID.
- Second Action: Responding field units acknowledge verbally with their alias unit ID, that they are enroute the scene or incident on the dispatch (D1) talkgroup directly to Dispatch.
- Third Action: Dispatch will enter into CAD the status activity and time for each responding unit. Dispatch can acknowledge completed data entry and time to the responding unit if requested.

3. Call Initiation Steps (Field to Dispatch)

- First Action: Field unit initiates the call verbally over the Dispatch (D1) talkgroup to Dispatch operator, identifying his alias unit ID.
- Second Action: Dispatch will verbally acknowledge the calling unit with their alias unit ID. If applicable, Dispatch will also advise the calling unit of any situation or incident in progress that would need to limit or delay the calling field unit from completing their request.
- Third Action: Field unit completes their request or message to Dispatch.

 Fourth Action: Dispatch acknowledges the field unit by repeating their alias unit ID, responds to their request or message and then completes the exchange with the time.

4. Dispatch Intermediate Communication Calls

- Dispatch can verbally send updated call or incident information directly to responding units over the chosen active response talkgroup, to any series of chosen response talkgroups using the console Multi-Select function, and/or send an informational alphanumeric page to equipped applicable units.
- Dispatch can manually patch non-trunked (conventional) users to an incident talkgroup if requested by the incident commander.

I. System-Related Montana Highway Patrol (MHP) Talkgroup names & Conventional Channel Resources

 MHP units share existing Lewis & Clark County, City of Helena, and system interoperability agency talkgroups and repeaters. As such, MHP is not assigned an independent dispatch, operations, or administrative talkgroup on the system.

MHP Shared Trunked System Talkgroup Names:

5 SO D1: Sheriff Primary Dispatch 1

5 SO OPS: Sheriff Operations

5 SO ADM: Sheriff Admin.

5 SAROPS: Search and Rescue Operations5 SARADM: Search and Rescue Admin.5 LAW TG: Law Enforcement shared

J LAW 10. Law Lillorcement Shared

5 HP D1: Helena Police Primary Dispatch 1

5 HP OPS: Helena Police Operations

5 HFD D1: Helena Fire Primary Dispatch 1

5 HFTAC1: Helena Fire Tactical 1

5 EMS D1: EMS Ambulance Primary Dispatch 1

5 EMSTAC: EMS Ambulance Tactical

5 EHP D1: E. Helena Police Primary Dispatch 1

5 EHPOPS: E. Helena Police Operations 5 RF D1: Rural Fire Primary Dispatch 1

5 RFTAC1: Rural Fire Tactical 1

5 C PWOP: City of Helena Public Works Operations



5 LCPWOP: Lewis & Clark Co. Public Works

Operations

5 EH TG: E. Helena patched Rptr. Talkgroup

Limited interop. talkgroup, permanentpatched to conventional site repeater.

5 WC TG: Wolf Creek patch Rptr. Talkgroup Limited

interop. talkgroup, permanent-patched to

conventional site repeater.

5 SS TG: Sunset patch Rptr. Talkgroup Limited

interop. talkgroup, permanent-Patched to

conventional site repeater.

5 BM TG: Belmont patched Rptr. Talkgroup Limited

interop. talkgroup, permanent-patched to

conventional site repeater.

5 MP TG: Mac Pass patched Rptr. Talkgroup

Limited interop. talkgroup, permanent-Patched to conventional site repeater.

5 HB TG: Hogback patched Rptr. Talkgroup Limited

interop. talkgroup, permanent-patched to

conventional site repeater.

5 LEC TG: Helena LEC patched Rptr. Talkgroup

Limited interop. Talkgroup, permanent-patched to conventional site repeater.

5 INC1: Incident #1 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 2: Incident #2 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 3: Incident #3 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 4: Incident #4 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 INC 5: Incident #5 (interagency/command) Inter-

agency / multiple agency / command and control interop. operational Incident and

response talkgroup.

5 CALERT: Interagency Call Alert Meeting Talkgroup

Non operational interagency meeting place talkgroup. When a unit pages another unit between different agencies, this is the default talkgroup rendezvous

point.

5 CORADM: Lewis & Clark Coroner Admin.5 GSD D1: Montana Dept. of Admin. General

Services Primary Dispatch 1

5 GSDTAC: Montana Dept. of Admin. General

Services Tactical

5 DESADM: Disaster Emergency Services (DES)

Admin. talkgroup

5 DOJADM: Montana Dept. of Justice Admin.

talkgroup

2. Conventional Channel Resources:

5 AG RP: Augusta Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 HJ RP: Hedges Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 SW RP: Stonewall Interop. Analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 EH RP: E. Helena Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 WC RP: Wolf Creek Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 SS RP: Sunset Interop. Analog Rptr. Conventional

site interop. repeater permanent-patched

to trunked system talkgroup

5 BM RP: Belmont Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup



5 MP RP: Mac Pass Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

5 HB RP: Hogback Interop. Analog Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

12.1.2 Handling Everyday incidents for local jurisdictions and agencies:

a) If an incident involves only a single responding individual or unit, the call will remain on the Dispatch (D1) talkgroup

b) If an incident or call involves only a single agency response, once the call responders have been acknowledged by Dispatch, the incident commander or officer in charge will move the call off the Dispatch (D1) talkgroup and onto their OPS/TAC talkgroups. In the event OPS or TAC talkgroups are already in use, the incident commander will need to determine a clear operations/tactical talkgroup, and then advise Dispatch (D1) of the change.

12.1.3 Handling a major incident for local jurisdictions and agencies:

- a) If an incident or call involves a multi-agency response, once the call responders have been acknowledged by Dispatch, incident activity will be immediately moved off the Dispatch (D1) talkgroup and onto 1 of 5 Incident/Command talkgroups (INC 1 – 5). Dispatch will both assign the incident talkgroup and identify the incident commander (IC).
- b) If a multi-agency response is an "everyday incident", applicable units will stay on the numbered incident talkgroup until they clear the scene. If any units require additional information, they can switch momentarily to their Dispatch (D1) talkgroup to obtain the information. If a side-bar discussion is needed, applicable units can switch momentarily to their OPS/TAC or ADM talkgroups.
- c) If a multi-agency response elevates to a "large scale" incident, the on-scene incident commander/s (IC) will be assigned to coordinate and/or stage the response. Responding units or groups will be assigned alternate talkgroups or conventional channel resources at the discretion of incident commander/s. Additional incident (INC 1 5) talkgroups may be assigned as needed by the IC to handle incident complexities. Dispatch is capable of monitoring any of the incident

- (INC 1- 5) talkgroups, and will communicate update information to the incident commanders via their incident/command talkgroup. Note that the incident commander is determined inherently in the process.
- d) To clear an Incident talkgroup, the last unit on scene to downgrade the incident will call their Dispatch (D1) talkgroup to release the incident (INC 1 5) talkgroup. Note that an incident may also be downgraded to single agency or single individual incident status, causing incident communications to revert back to an OPS/TAC or Dispatch talkgroup. The incident commander is normally the last individual to clear a scene.

12.1.4 Encryption usage

The decision to use encryption depends primarily upon sensitivity of information content and the situation at hand. Encryption primarily blocks the public from monitoring personal, sensitive or potentially compromising information. Secondarily, encryption prevents interception of messages and critical decision-making processes at different agency levels. The county decided on the following five (5) level encryption key hierarchy:

| Agency Name | Common Key | TG's Usage |
|-------------------|------------|--------------------------------------------------|
| All Field Units | 1 | Dispatch, Admin, Shared/Common function, Patched |
| All Unit Leaders | 2 | OPS, TAC |
| All Command Units | 3 | Incident/Command, Drug Task Force, SWAT, Coroner |
| EMS | 4 | EMS only |
| Non Public Safety | 5 | Non Public Safety |

Since the trunked system is already P25 Astro Digital IMBE protocol, switching to encryption mode causes no degradation to audio quality or radio coverage. There is one caution for radios equipped with encryption: A field unit receiving a call from another encrypted radio yields no audio queue whether the call originated in clear or encrypted mode. As such, it is up to the receiving unit to look at their display for indication that the call was encrypted and to switch over to the appropriate mode.

12.1.5 Applicable Call Alert, Status Messaging, and Emergency Alarm & Call

a. Call Alert:

The primary purpose of call alert is to allow Dispatch or trunked radio units to contact each other (using aliases), regardless of which talkgroup they may be monitoring or affiliated with while operating on the trunked system.



Any intra-agency call alert notifications signify that both units are to meet on their assigned ADMIN talkgroup. Any inter-agency call alert is notification to both units to meet on the CALERT talkgroup.

b. Status Messaging:

Field unit radios send pre-defined status messages to the Dispatch console, which will appear on the operator activity logs. Dispatchers will still have to manually input/update status/message information into CAD for each incident. Most system subscriber radios include a status-messaging capability. However, only selected mobile units include a simplified one button status/message control head.

Typical status-message aliases:

- •21. Enroute
- 22. Arrived on Scene
- •23. Clear
- •24. Available

c. Emergency Alarm & Call

Due to the potential for safety issues in the field, local law agencies opted for silent alarm, meaning that the initiating radio makes no visible or audible indication that an alarm has occurred. Fire and related agencies opted for audible alarm indication on their field units. A user who generates an alarm will stay on the current talkgroup (tactical), and upon pushing the radio PTT, the initiating unit will take control of that talkgroup for 30 seconds. All alarms must be acknowledged by any dispatch operator positions capable of selecting or monitoring the applicable field units or talkgroups.

13. Dispatch Operations

13.1 New System Communications Hierarchy and Protocols

13.1.1 Day to Day Communications; Communicating with Dispatch

- I. Simple Call Description
 - 1. No Activity:
 - If there are no pertinent active calls or incidents, no active unit-to-unit meetings, all field units must stay on their primary Dispatch talkgroup (D1). Monitoring of nonessential system activity by any field unit is discouraged and prohibited.

2. Call Initiation Steps (Dispatch to Law Field units)

- First Action: Dispatch initiates the call verbally over the Dispatch (D1) talkgroup to expected responding units and individuals, utilizing their alias unit ID.
- Second Action: Responding field units acknowledge verbally with their alias unit ID, that they are enroute the scene or incident on the dispatch (D1) talkgroup directly to Dispatch.
- Third Action: Dispatch will enter into CAD the status activity and time for each responding unit. Dispatch can acknowledge completed data entry and time to the responding unit if requested.

3. Call Initiation Steps (Dispatch to Fire Field Units)

- First Action: Dispatch initiates the call by sending out a page to applicable units and individuals.
- Second Action: Field units and individuals respond to and acknowledge the page verbally on their dispatch (D1) talkgroup directly to Dispatch.
- Third Action: Responding field units send a status-message to Dispatch that they are enroute the scene or incident.



 Fourth Action: Dispatch will enter into CAD the status activity and time for each responding unit.

4. Call Initiation Steps (All Field Units to Dispatch)

- First Action: Field unit initiates the call verbally over the Dispatch (D1) talkgroup to Dispatch operator, identifying his alias unit ID.
- Second Action: Dispatch will verbally acknowledge the calling unit with their alias unit ID. If applicable, Dispatch will also advise the calling unit of any situation or incident in progress that would need to limit or delay the calling field unit from completing their request.
- Third Action: Field unit completes their request or message to Dispatch.
- Fourth Action: Dispatch acknowledges the field unit by repeating their alias unit ID, responds to their request or message and then completes the exchange with the time.

5. <u>Dispatch Intermediate Communication Calls</u>

- Dispatch can verbally send updated call or incident information directly to responding units over the chosen active response talkgroup, to any series of chosen response talkgroups using the console Multi-Select function, and/or send an informational alphanumeric page to equipped applicable units.
- Dispatch can manually patch non-trunked (conventional) users to an incident talkgroup if requested by the incident commander.

II. System-Related Dispatch-Capable Talkgroup names & Conventional Channel Resources

1. Trunked System Talkgroup Names:

SO D1: Sheriff's Office Primary Dispatch talkgroup. Monitored by all field units when there is no activity. Not used for

when there is no activity. Not used for radio traffic handling or as a working

talkgroup. Unit-to-unit meeting requests are not to be made on the dispatch

channel unless there are call alert or other

safety issues involved.

SO OPS: Sheriff's Office Operations talkgroup.

Operational primary radio traffic handling,

key agency working talkgroups

SO ADM: Sheriff's Office Admin. talkgroup. Non

operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talkgroups are generally for exclusive use of the agency, and are generally not included in the programming lists for other agencies, except for EMS services.

agencies, except for EMS services.

Dispatch is capable of operating on the

ADM talkgroup as needed.

SAR ADM: Search & Rescue Admin. talkgroup. Non

operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talkgroups are generally for exclusive use of the agency, and are generally not included in the programming lists for other

agencies, except for EMS services. Dispatch is capable of operating on the

ADM talkgroup as needed.

LAW TG: Law Enforcement Shared (+Explosive

Disposal Team). Limited operational

interagency talkgroup.

JAIL: Lewis & Clark Jail / Detention talkgroup.

Limited usage non operational talkgroup, primarily for passing messages and requests into and out of SO Detention. The primary operational means of communications for the jail is existing

simplex UHF channel.

MRDTF: Missouri River Drug task Force

Operational agency primary radio traffic

talkgroup

HP D1: Helena Police Primary Dispatch 1

talkgroup. Monitored by all field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests

are not to be made on the dispatch

channel unless there are call alert or other

safety issues involved.

HP OPS: Helena Police Operations talkgroup.

Operational primary radio traffic handling,

key agency working talkgroups

HP ADM: Helena Police Admin. talkgroup. Non

operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talkgroups are generally for exclusive use of the agency, and are generally not included in the programming lists for other

agencies, except for EMS services. Dispatch is capable of operating on the

ADM talkgroup as needed.

HFD D1: Helena Fire Dept. Primary Dispatch 1

talkgroup. Monitored by all field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests are not to be made on the dispatch

channel unless there are call alert or other

safety issues involved.

HF TAC1: Helena Fire Tactical 1 talkgroup. Tactical

primary radio traffic handling, key agency

working talkgroup

HF TAC2: Helena Fire Tactical 2 talkgroup. Tactical

primary radio traffic handling, key agency

working talkgroup

HFD ADM: Helena Fire Dept. Admin. talkgroup. Non

operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talkgroups are generally for exclusive use

of the agency, and are generally not included in the programming lists for other

agencies, except for EMS services.

Dispatch is capable of operating on the ADM talkgroup as needed.

EMS D1: EMS Ambulance Primary Dispatch 1

talkgroup. Monitored by all field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests

are not to be made on the dispatch

channel unless there are call alert or other

safety issues involved.

EMS TAC: EMS Ambulance Tactical talkgroup.

Tactical primary radio traffic handling, key

agency working talkgroup

EMS ADM: EMS Ambulance Admin. talkgroup. Non

operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talkgroups are generally for exclusive use

of the agency, and are generally not

included in the programming lists for other agencies, except for EMS services.

Dispatch is capable of operating on the

ADM talkgroup as needed.

EHP D1: E. Helena Police Primary Dispatch 1

talkgroup. Monitored by all field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests are not to be made on the dispatch

channel unless there are call alert or other

safety issues involved.

EHP ADM: E. Helena Police Admin. talkgroup. Non

operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talkgroups are generally for exclusive use of the agency, and are generally not

included in the programming lists for other

agencies, except for EMS services. Dispatch is capable of operating on the

ADM talkgroup as needed.

RF D1: Rural Fire Agencies Primary Dispatch 1

talkgroup. Monitored by all field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests are not to be made on the dispatch

channel unless there are call alert or other

safety issues involved.

RF ADM: Rural Fire Agencies Admin. talkgroup.

Non operational secondary radio traffic, and for intra-agency unit-to-unit meetings.

ADM talkgroups are generally for

exclusive use of the agency, and are generally not included in the programming lists for other agencies, except for EMS services. Dispatch is capable of operating on the ADM talkgroup as needed.

PW D1:

All Public Works Primary Dispatch 1 talkgroup. Monitored by all field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests are not to be made on the dispatch channel unless there are call alert or other

safety issues involved.

CPW ADM: City of Helena Public Works Admin. talkgroup. Non operational secondary radio traffic, and for intra-agency unit-tounit meetings. ADM talkgroups are generally for exclusive use of the agency, and are generally not included in the programming lists for other agencies, except for EMS services. Dispatch is capable of operating on the ADM talkgroup as needed.

LCPW ADM: Lewis & Clark Co. Public Works Admin. Talkgroup. Non operational secondary radio traffic, and for intra-agency unit-tounit meetings. ADM talkgroups are generally for exclusive use of the agency. and are generally not included in the programming lists for other agencies. except for EMS services. Dispatch is capable of operating on the ADM talkgroup as needed.

TECH 1: Technical and maintenance operational

Services talkgroup.

Multi-group Call Search & Rescue MGC SAR:

> agency. Urgent messaging reaching all system members on a non-ruthless top of

queue basis.

MGC HFD: Multi-group Call Helena Fire Dept.

> agency. Urgent messaging reaching all system members on a non-ruthless top of

queue basis.

MGC RF: Multi-group Call Rural Fire agencies.

Urgent messaging reaching all system members on a non-ruthless top of queue

basis.

MGC GSD: Multi-group Call Gen. Services, Dept. of Admin. agency. Urgent messaging reaching all system members on non-

ruthless top of queue basis.

INCIDENT 1: Incident #1 (interagency/command) Interagency / multiple agency / command and control interop. operational Incident and response talkgroup.

INCIDENT 2: Incident #2 (interagency/command) Interagency / multiple agency / command and control interop. operational Incident and response talkgroup.

INCIDENT 3: Incident #3 (interagency/command) Interagency / multiple agency / command and control interop. operational Incident and response talkgroup.

INCIDENT 4: Incident #4 (interagency/command) Interagency / multiple agency / command and control interop. operational Incident and response talkgroup.

INCIDENT 5: Incident #5 (interagency/command) Interagency / multiple agency / command and control interop. operational Incident and response talkgroup.

COR ADM: L&C Co. Coroner Admin. talkgroup. Non operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talkgroups are generally for exclusive use of the agency, and are generally not included in the programming lists for other agencies, except for EMS services.

Dispatch is capable of operating on the ADM talkgroup as needed.

GSD D1: Gen. Services, Dept. of Admin. Primary Dispatch 1 talkgroup. Monitored by all field units when there is no activity. Not used for radio traffic handling or as a working talkgroup. Unit-to-unit meeting requests are not to be made on the

dispatch channel unless there are call alert or other safety issues involved.

GSD TAC: Gen. Services, Dept. of Admin. Tactical

talkgroup. Tactical primary radio traffic handling, key agency working talkgroup

DES ADM: Disaster Emerg. Services Admin.

talkgroup. Non operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talkgroups are generally for exclusive use of the agency, and are generally not included in the

and are generally not included in the programming lists for other agencies, except for EMS services. Dispatch is capable of operating on the ADM

talkgroup as needed.

FR ADM: Federal Reserve Admin. talkgroup. Non

operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talkgroups are generally for exclusive use

of the agency, and are generally not included in the programming lists for other

agencies, except for EMS services. Dispatch is capable of operating on the

ADM talkgroup as needed.

DOJ ADM: Montana Dept. of Justice Admin.

talkgroup. Non operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talkgroups are

generally for exclusive use of the agency, and are generally not included in the programming lists for other agencies, except for EMS services. Dispatch is capable of operating on the ADM

talkgroup as needed.

2. Conventional Channel Resources:

AUGUSTA R: Augusta analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

HEDGES R: Hedges Interop. analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

STONEWAL R: Stonewall analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

E HELENA R: E. Helena analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

WOLFCRK R: Wolfcreek analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

SUNSET R: Sunset analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

BELMONT R: Augusta analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

MACPASS R: Augusta analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

HOGBACK R: Augusta analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

LEC R: Augusta Interop. analog or P25 Rptr.

Conventional site interop. repeater permanent-patched to trunked system

talkgroup

MT HLN BU R1: Mt. Helena backup Rptr 1. Conventional

site analog shared

MT HLN BU R2: Mt. Helena backup Rptr 2. Conventional

site analog shared

MT HLN BU R3: Mt. Helena Law Enf. backup Rptr 3.

Conventional site analog shared

SILVER: Statewide Law Enf. Mutual Aid; Silver

chan.



13.1.2 Handling Everyday incidents

- a) If an incident involves only a single responding individual or unit, the call will remain on the Dispatch (D1) talkgroup
- b) If an incident or call involves only a single agency response, once the call responders have been acknowledged by Dispatch, the incident commander or agency unit in charge will move the call off the Dispatch (D1) talkgroup and onto an OPS or TAC talkgroup. In the event all OPS/TAC talkgroups are already in use, the incident commander will need to determine a clear operations/tactical talkgroup, and then advise Dispatch (D1) of the change.

13.1.3 Handling a major incident

- a) If an incident or call involves a multi-agency response, once the call responders have been acknowledged by Dispatch, incident activity will be immediately moved off the Dispatch (D1) talkgroup and onto 1 of 5 Incident/Command talkgroups (INC 1 – 5). Dispatch will both assign the incident talkgroup and identify the incident commander (IC).
- b) If a multi-agency response is an "everyday incident", applicable units will stay on the numbered incident talkgroup until they clear the scene. If any units require additional information, they can switch momentarily to their Dispatch (D1) talkgroup to obtain the information. If a side-bar discussion is needed, applicable units can switch momentarily to their OPS/TAC or ADM talkgroups.
- c) If a multi-agency response elevates to a "large scale" incident, the on-scene incident commander/s (IC) will be assigned to coordinate and/or stage the response. Responding units or groups will be assigned alternate talkgroups or conventional channel resources at the discretion of incident commander/s. Additional incident (INC 1 5) talkgroups may be assigned as needed by the IC to handle incident complexities. Dispatch is capable of monitoring any of the incident (INC 1- 5) talkgroups, and will communicate update information to the incident commanders via their incident/command talkgroup. Note that the incident commander is determined inherently in the process.
- d) To clear an Incident talkgroup, the last unit on scene to downgrade the incident will call their Dispatch (D1) talkgroup to release the incident (INC 1 5) talkgroup. Note that an incident may also be downgraded to single agency or single individual incident status,

causing incident communications to revert back to an OPS/TAC or Dispatch talkgroup. The incident commander is normally the last individual to clear a scene.

13.1.4 Encryption usage

The decision to use encryption depends primarily upon sensitivity of information content and the situation at hand. Encryption primarily blocks the public from monitoring personal, sensitive or potentially compromising information. Secondarily, encryption prevents interception of messages and critical decision-making processes at different agency levels. The county decided on the following five (5) level encryption key hierarchy:

| Agency Name | Common Key | TG's Usage |
|-------------------|------------|--------------------------------------------------|
| All Field Units | 1 | Dispatch, Admin, Shared/Common function, Patched |
| All Unit Leaders | 2 | OPS, TAC |
| All Command Units | 3 | Incident/Command, Drug Task Force, SWAT, Coroner |
| EMS | 4 | EMS only |
| Non Public Safety | 5 | Non Public Safety |

Since the trunked system is already P25 Astro Digital IMBE protocol, switching to encryption mode causes no degradation to audio quality or radio coverage. There is one caution for radios equipped with encryption: A field unit receiving a call from another encrypted radio or dispatch yields no audio queue whether the call originated in clear or encrypted mode. As such, it is up to the receiving unit to look at their display for indication that the call was encrypted and to switch over to the appropriate mode.

13.1.5 Applicable Call Alert, Status Messaging, and Emergency Alarm & Call

a. Call Alert:

The primary purpose of call alert is to allow Dispatch or trunked radio units to contact each other (using aliases), regardless of which talkgroup they may be monitoring or affiliated with while operating on the trunked system.

Any intra-agency call alert notifications signify that both units are to meet on their assigned ADMIN talkgroup. Any inter-agency call alert is notification to both units to meet on the CALERT talkgroup.

b. Status Messaging:

Field unit radios send pre-defined status messages to the Dispatch console, which will appear on the operator activity logs. Dispatchers will still have to manually input/update status/message information into CAD for each incident. Most system subscriber radios include a status-



messaging capability. However, only selected mobile units include a simplified one button status/message control head.

Typical status-message aliases:

- EnrouteArrived on SceneClearAvailable
- c. Emergency Alarm & Call

A user who generates an alarm will stay on the current talkgroup (tactical), and upon pushing the radio PTT, the initiating unit will take control of that talkgroup for 30 seconds. Fire agencies opted for audible alarm indication on their field units. Law agencies opted for silent alarm, such that their field unit radios will show no indication that an emergency or alarm condition exists. All alarms must be acknowledged by any dispatch operator positions capable of selecting or monitoring the applicable field units or talkgroups.